CONTENTS OF SUPPLEMENT.

PERSONAL 217
Obituary 217
ENGINEERING SOCIETIES 217
Coming Technical Meetings 217
NEW PUBLICATIONS 217
CONSTRUCTION NEWS:
Condensed List of Contracts Pending 217
Railways 218
Street and Electric Railways 219
Electric Light and Power 219
Bridges 219
Buildings 220
Water-Works 220
Irrigation 221
Sewerage 221
Garbage Disposal and Street Cleaning 221
Streets and Roads 222
Manufacturing Plants 222
Gas Plants 222
Miscellaneous Contracts 222
Contract Prices 223
INDUSTRIAL NOTES 224

PERSONAL.

Mr. John H. Larrabee, civil engineer and surveyor, has opened an office in Melrose, Mass.

Mr. Perry F. Brown, City Engineer of Janesville, Wis., was married June 18 to Miss Beulah A. Hodgdon, of that city.

Mr. John Frank Stevens, M. Am. Soc. C. E., Chief Engineer of the Great Northern Ry., with headquarters at St. Paul, Minn., has resigned on account of ill health.

Mr. E. A. Sawyer has been elected City Engineer of Colorado Springs, Colo. Mr. N. W. Wall, formerly City Engineer of Trinidad, Colo., has been appointed Assistant Engineer.

Mr. Eugene Clapp, Chief Engineer of the South Side Elevated R. R. of Chicago, has been commissioned as a First Lieutenant in the Second Regiment of United States Volunteer Engineers.

Mr. A. H. Sutermeister, Roadmaster of the Troy Union R. R., of Troy, N. Y., has been appointed Superintendent of the Grade Crossing Bureau of the Board of Railroad Commissioners of New York state.

Mr. E. D. Leavitt, M. Am. Soc. M. E., for the past 24 years Consulting Engineer for the Calumet & Hecla Mining Co., has been appointed a member of the commission for the erection of the proposed West Boston bridge, at Cambridge, Mass.

Mr. Maurice W. Cooley, Assoc. M. Am. Soc. C. E., Engineer of Maintenance of Way, of the Ohio Central Lines, with headquarters at Toledo, O., has been commissioned First Lieutenant in the Second Regiment of United States Volunteer Engineers.

Mr. George F. Chapman, Superintendent of the Elizabeth Division of the North Jersey St. Ry., formerly the Consolidated Traction Co. of New Jersey, has been made General Superintendent of the entire system, to succeed Mr. Frank Ellmaker, resigned.

Maj. J. H. Willard, Corps of Engineers, U. S. Army, has assumed charge of the Fourth Engineer District, under the Mississippi River Commission, with official headquarters at New Orleans, La. He is at present located at Vicksburg, Miss.

Mr. Joseph R. Haskin, for three years Assistant Electrical Superintendent of the Niagara Falls Power Co., Niagara Falls, N. Y., has been commissioned First Lieutenant of the First Regiment of United States Volunteer Engineers, now in camp at Peekskill, N. Y. He is a graduate of the University of California as an electrical engineer and was in the employ of the General Electric Co. at Lynn, Mass.

Mr. W. B. Nye, for many years Manager of the Cumberland Manufacturing Co., 220 Devonshire St., Boston, Mass., will hereafter be connected with S. D. Warren & Co., paper manufacturers, with Boston headquarters at the same address. As recently announced in this journal, the business of the Cumberland Mfg. Co., makers of the Warren mechanical filter, has been consolidated with that of the New York Filter Mfg. Co.

OBITUARY.

Mr. H. G. Howe, civil engineer, of Tombstone, Ariz., died June 15, aged 59.

Mr. D. Jarvis Thayer, civil engineer, of Chariton, Ia., committed suicide on a sleeping car near Burlington, Ia., June 21, while temporarily insane.

Mr. Frank B. Bergen, civil engineer, died at Childress, Tex., June 15, of consumption. He was a graduate of the University of Texas in the class of 1893.

Mr. R. Y. Briggs, civil engineer, in the service of the United States Engineer Corps, at New Orleans, La., died June 18 from the effects of a surgical operation. He was 38 years of age.

Prof. Charles Wilhelm August Herrmann, mineralogist, died at his home in New York city, June 20. He was born July 3, 1801, at Altwasser, Silesia, Germany, and was educated at the University of Breslau, where he afterwards became Professor of Mineralogy. Later he resigned to study at Mecklenberg, and in 1853 came to the United States. He settled in New York and engaged in the collecting and selling of minerals.

Mr. Edward Marsland, mechanical engineer, died at Sing Sing, N. Y., June 25, after an illness of four and a-half years. He was born in Newcastle, N. Y., Oct. 5, 1829, and entered the Allaire Iron Works as an apprentice in 1847. In 1851 he entered the service of the Collins Line as a first assistant engineer, remaining until 1858, when he was commissioned as a chief engineer in the service of the Russian Government, later being appointed Fleet Engineer of the Russian fleet in Chinese waters. In 1860 he resigned to enter the service of the United States, and was appointed a First Assistant Engineer, Aug. 23, 1861, being ordered to the first gunboat placed in commission for the war. At the close of the war he resigned and entered the service of the Pacific Mail Steamship Co. In 1867 he became engaged in dredging operations at the mouth of the Mississippi River and two years later joined the U. S. Engineer Corps. He resigned to become Superintending Engineer of the Roach shipyard at Chester, Pa., where he remained for three years. He was Superintendent of the New York Gas Works and of the New York Steam Heating Co. during later years, and was the inventor of a number of mechanical devices in the field of steam engineering.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

WESTERN SOCIETY OF ENGINEERS.
July 6. "Establishment of Street Grades," Chas P. Chase, Secy., N. L. Litten, Monadnock Block, Chicago, Ill.

INTERNATIONAL MINING CONGRESS.
July 6-9. At Salt Lake City. Secy., W. D. Johnson, Salt Lake City, Utah.

CIVIL ENGINEERS' CLUB OF CLEVELAND.
July 12. Secy., Wm. H. Searles, Case Library Bldg., Cleveland, O.

AMERICAN SOCIETY OF R. R. SUPERINTENDENTS.
July 13-14. Annual meeting, Alexandria Bay, N.Y. Secy., C. A. Hammond, Asbury Park, N. J.

AMERICAN HEATING AND VENTILATING SOCIETY.
July 15. Atlantic City, N. J. Secy., S. A. Jellett, 704 Arch St., Philadelphia, Pa.

ENGINEERS' CLUB OF MINNEAPOLIS.
July 18. Secy., H. E. Smith, 1620 S. E. 4th St., Minneapolis, Minn.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.
July 19. Secy., R. A. Fessenden, 410 Penn Ave., Pittsburg, Pa.

WESTERN FOUNDRYMEN'S ASSOCIATION.
July 20. Secy., B. M. Gardner, 1522 Monadnock Block, Chicago, Ill.

THE BROOKLYN ENGINEERS' CLUB.—An informal dinner was given by this club at Clarendon Inn, Ocean Parkway, Brooklyn, on June 21.

CENTRAL RAILWAY CLUB.—The next regular meeting of this club will be held Sept. 9, probably at the Bedell House, on Grand Island, in Niagara River.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—The first regular meeting of this society after the summer convention and the first meeting of the season of 1898-99, will be held at the Society House, on Sept. 7.

ENGINEERING ASSOCIATION OF THE SOUTH.—A meeting of this association was held June 18 at Nashville, Tenn. The paper of the evening, "Phosphate Rock in the South," by Mr. John S. O'Neal, reviewed the history of the Southern phosphate fields and gave a considerable amount of data regarding the industry. The Tennessee fields were discussed in detail and their advantages were pointed out. The next meeting of the association will be held in September.

CANADIAN ELECTRICAL ASSOCIATION.—The following papers were read at the convention of the Canadian Electrical Association, held at Montreal, Que., June 28-30, of which notice was given in our issue of June 16: "How to Overcome Some of the Difficulties Encountered by Central Station Men," A. A. Wright, Renfrew, Ont.; "The Unconscious Ownership of an Important Key—A Plea for the Introduction of Goods Traffic on our Suburban Tramways," W. T. Bonner, Montreal; "The Quimby Screw Pump," also by Mr. Bonner; "Experiences of an Inspector," Dr. J. K. Johnstone, Toronto; "The Electric Current in the Rainy River Gold Mines," W. W. Hopkins; "The Importance of Proper Methods of Illumination," F. A. Bowman, New Glasgow; "Electric Utilization of Water Powers," Louis De Witt Magie, Montreal; "Economies in the Boiler Room," James Milne, Toronto.

BOSTON SOCIETY OF CIVIL ENGINEERS.—This society held a regular meeting on June 15th, with 52 members and visitors present. It was voted to celebrate the 50th anniversary of the society in October next.

The first paper of the evening was by Mr. A. U. Jaastad, Mechanical and Electrical Engineer, of Boston. The title of the paper was "Modern Steam Plants for Electric Railways," and consisted of a very full description of the plant recently planned by him for the Third Ave. Railway Co. of New York.

Mr. Gilbert Hodges also read a paper giving quite fully the "History of Street Railways." The paper, while not technical, was exceedingly interesting, as it traced the development of street railways from their earliest introduction to the present time, and showed very clearly what remarkable strides have been made in that branch of engineering within the past fifteen years.

S. E. Tinkham, Secy.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The 50th anniversary of this association will be celebrated at the annual meeting to be held in Boston, Mass., Aug. 22 to 27. The council will meet on Aug. 20 at the Rogers Building of the Massachusetts Institute of Technology, but the regular sessions begin at 10 a. m. on the day mentioned. The regular announcement of the secretary includes the list of officers, committees and members and officers of the various sections as well as complete information regarding the places and times for meetings of sections. The general excursion program is as follows: Aug. 23.—An excursion to Middlesex Fells. Aug. 24.—"Salem Day," will include Salem and Boston Harbor with side trips to Marblehead, Nahant and Cape Ann; also the Metropolitan Water Works at Clinton. Aug. 25.—Park trips. Aug. 26.—"Cambridge Day," visit to Harvard University and an inspection of its various departments. Aug. 27.—The Riverside Recreation Grounds will be visited and later Wellesley College. Other trips will be made to Lexington and Concord. Aug. 29.—This will be the first day of an excursion which will include the White Mountains, Plymouth, Provincetown, Newport, etc.

The following are some of the papers to be read: "Development of Astronomical Photography," "On the Perception of Light and Color," "Geology and Geography," "Glacial Geology in America," "A Half Century of Evolution, with Special Reference to the Effects of Geographical Changes on Animal Life;" "The Conception of Species as Affected by Recent Investigations on Fungi," "Some Points in Theoretical Chemistry." The full list of papers to be read will be announced later.

The following affiliated societies will hold their meetings on the dates mentioned in conjunction with the American Association for Advancement of Science: American Forestry Association, Aug. 23, 24; Geological Society of America, Aug. 23; American Chemical Society, Aug. 22, 23; American Mathematical Society, Aug. 19, 20; Society for the Promotion of Engineering Education, Aug. 18, 19, 20; National Geographic Society, Aug. 25, and a Conference of Astronomers and Physicists, Aug. 18, 19, 20.

NEW PUBLICATIONS.

DEPARTMENT OF MUNICIPAL STATISTICS, BOSTON, MASS.—Report for the Nine Months Ending Jan. 31, 1898. Laurenne Minot, Chairman; Edw. M. Hartwell, Secretary. City Hall, Boston. Paper; 6 x 9 ins.; pp. 20.

Some information regarding this report is given elsewhere in this issue.

FOREST GROWTH AND SHEEP GRAZING IN THE CASCADE MOUNTAINS OF OREGON.—By Frederick V. Coville. Pub. Doc., Bulletin No. 15, Division of Forestry, U. S. Department of Agriculture, Washington, D. C. Paper; 8vo.; pp. 54.

This report shows the great damage done to forest growths by sheep herding and by fires carelessly caused by men in charge of the sheep or by camping parties who do not know how to handle camp fires. A system of protection is proposed, under which grazing permits would be granted, with which the holders would be responsible for fires and damage done within the district covered by the permit.

FORESTRY CONDITIONS AND INTERESTS OF WISCONSIN.—By Filibert Roth. With a Discussion by B. E. Fernow. Pub. Doc., Bulletin No. 16, Division of Forestry, U. S. Department of Agriculture, Washington, D. C. Paper; 8vo.; pp. 76; colored map.

While Wisconsin was originally largely covered with forests, more than a million acres have been cleared and cultivated. During 40 years of lumbering nearly the entire territory has been "logged," the pine has disappeared from most of the mixed forests and the greater portion of the pineries have been cut. It is pointed out that the groves of pine which have sprung up within the past 25 years will furnish merchantable timber if protected, but that under present conditions they will be crippled or killed by fires or cut into cordwood. Half the mills of 20 years ago have gone out of existence as their pine supplies failed. It is strongly urged that something be done to save the enormous loss to the state by the waste and destruction of timber.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
June 30.	Hospital building,	Fort Snelling, Minn.	June 9
June 30.	Excavating, etc.,	Admiralty Head, Wash.	June 9
June 30.	Steel floor beams, etc.,	Cheyenne, Wyo.	June 9
June 30.	Gas apparatus,	New York, N. Y.	June 9
June 30.	School building,	Zanesville, O.	June 2
June 30.	Lamps,	Mansfield, O.	June 16
June 30.	Stand-pipe,	Seattle, Wash.	June 16
June 30.	Electric light plant,	Olyphant, Pa.	June 23
	Advertised, Engineering News, June 23.		
June 30.	Sewers,	Cleveland, O.	June 23
June 30.	Artesian well,	Denver, Colo.	June 23
June 30.	Stone cottage,	Lockport, N. Y.	June 23
June 30.	Levee repairs,	Woodside, O.	June 23
June 30.	Steel superstructure,	Lindsay, Ont.	June 23
June 30.	Heating plant, etc.,	Washington, D. C.	June 23
June 30.	School building,	Farmer City, Ill.	June 23
June 30.	Water-Works,	Andover, N. B.	June 23
June 30.	Macadamizing,	Bloomfield, Conn.	June 23
June 30.	Asphalt paving,	New York, N. Y.	June 23
June 30.	Broken stone, etc.,	Paterson, N. J.	June 23
June 30.	Brick paving,	Johnstown, Pa.	June 30
June 30.	Sewers,	Greensburg, Pa.	June 30
July 1.	Bridge,	Brantford, Ont.	June 30
July 1.	Paving,	Newburg, N. Y.	June 30
July 1.	Brick paving,	Troy, N. Y.	June 30
July 1.	Gravel roads (19 miles),	Columbus, Ind.	June 30
July 1.	Hotel building,	New Martinsville, W. Va.	June 30
July 1.	Stand-pipe foundation,	Seattle, Wash.	June 30
July 1.	Deep well,	Saginaw, Mich.	June 30
July 1.	Bridge bonds,	Denver, Colo.	June 30
July 1.	Sewers,	Boston, Mass.	June 30
July 1.	Electric light plant,	Baltimore, Md.	June 23
July 1.	Electric light plant,	Fosston, Md.	June 23

July 1. Electric light plant, Richwood,, O. ..... June 23
July 1. Water-works, Washington, Ga. ..... June 23
July 1. State house bonds, Providence, R. I. ..... June 23
July 1. College building, Annapolis, Md. ..... June 23
July 1. Asphalt paving, Indianapolis, Ind. ..... June 23
July 1. Cables, Cincinnati, O. ..... June 23
July 1. Granite stones, New York, N. Y. ..... June 23
July 1. Water-works, Fosston, Minn. ..... June 23
July 1. Water bonds, Beresford, S. Dak. ..... June 23
July 1. Grading, Torrington, Conn. ..... June 23
July 1. Stone flagging, Pelham, N. Y. ..... June 23
Advertised, Engineering News, June 23.
July 1. School building, Paducah, Ky. ..... June 16
July 1. Bonds, Toledo, O. ..... June 16
July 1. School building, Aberdeen, S. Dak. ..... June 16
July 1. Water power, Madras, India. ..... Oct. 28
July 1. Plans for sewer system, Formby, Eng. ..... Apr. 7
July 1. Plans for sewer system, Cohoes, N. Y. ..... Apr. 28
Advertised, Eng. News, Apr. 28 and May 5.
July 1. Power plant, Sault Ste. Marie, Mich. ..... May 26
Advertised, Eng. News, April 14 to 28.
July 1. Bridges (3), Columbus, O. ..... June 9
July 1. Stone arch culvert, Cleveland, O. ..... June 9
July 1. Street work, St. Louis, Mo. ..... June 9
July 1. Stone bridge, Niagara Falls, N. Y. ..... June 16
July 2. School building, Mount Vernon, O. ..... June 9
July 2. Brick paving, Canton, O. ..... June 9
July 2. Water-works, Summit, Miss. ..... May 19
July 2. Sewer, Aurora, Ind. ..... June 16
July 2. Gun carriages, Washington, D. C. ..... June 16
July 2. Light bonds, New London, O. ..... June 16
July 2. Roofing, etc., Brooklyn, N. Y. ..... June 23
July 2. Macadamizing, South Windsor, Conn. ..... June 23
July 2. Brick paving, Des Moines, Ia. ..... June 23
July 2. School building, Wyandotte, Mich. ..... June 23
July 2. Steel bridge, Passaic, N. J. ..... June 30
July 2. Sewers, Aurora, Ind. ..... June 30
July 2. Macadamizing, Winchester, Conn. ..... June 30
July 2. Elevator plant, Waseca, Minn. ..... June 30
July 2. Sidewalks, Walkerton, Ont. ..... June 30
July 4. Sidewalks, Peterborough, Ont. ..... June 30
July 4. Bridge, Carthage, Miss. ..... June 30
July 4. Brick paving, Burlington, Ia. ..... June 23
July 5. Sewage disposal plant, Lancaster, O. ..... June 16
July 5. Water-works, etc., Lancaster, O. ..... June 16
July 5. Sewers, Jefferson City, Mo. ..... June 16
July 5. Drainage work, Cornwall, Ont. ..... June 16
July 5. Water-works, Ogden, Ia. ..... June 16
July 5. Water supply, Guthrie, Okla. ..... June 16
July 5. Steam heating plant, Lancaster, O. ..... June 9
July 5. Dredging in Delaware River, Pa. ..... June 9
Advertised, Eng. News, June 9 to 30.
July 5. Iron bridges (4), Elkton, Md. ..... June 9
July 5. Brick paving, Wellsburg, W. Va. ..... June 23
July 5. Sewer bonds, Goldsboro, N. C. ..... June 23
July 5. Bridges, Chehalis, Wash. ..... June 23
July 5. Grading, Mount Vernon, N. Y. ..... June 23
July 5. Street bonds, Oak Harbor, O. ..... June 23
July 5. Pipe sewers, Mount Vernon, N. Y. ..... June 23
July 5. Pipe sewers, Avalon, Pa. ..... June 23
July 5. Pipe sewers, Plattsburg, N. Y. ..... June 23
July 5. Bridge, Rochester, N. Y. ..... June 23
Advertised, Eng. News, June 23 and 30.
July 5. Village hall, Summit, Ill. ..... June 23
July 5. Grading, etc., St. Louis, Mo. ..... June 23
July 5. Brick sewers, Muscatine, Ia. ..... June 30
July 5. Sewers, Chicago, Ill. ..... June 30
July 5. Pipe sewers, New Ulm, Minn. ..... June 30
July 5. Boiler, Santa Ana, Cal. ..... June 30
July 5. Cement, etc., Willetts Point, N. Y. ..... June 30
July 5. Earthwork, Sacramento, Cal. ..... June 30
July 5. Building, Detroit, Mich. ..... June 30
July 5. Sewers, Ottumwa, Ia. ..... June 30
July 5. Bridge at water-works, Spokane, Wash. ..... June 30
July 5. County bridges (8), Shreveport, La. ..... June 30
July 5. Sewers, Elyria, O. ..... June 30
July 5. Grading, paving, etc., Pittsburg, Pa. ..... June 30
July 5. Road bonds, Toledo, O. ..... June 30
July 5. College building, Stillwater, Okla. ..... June 30
July 5. Brick paving, etc., Muscatine, Ia. ..... June 30
July 5. Brick paving, etc., Ottumwa, Ia. ..... June 30
July 5. Grading, etc., New Ulm, Minn. ..... June 30
July 5. Road supplies, Jamestown, N. Dak. ..... June 30
July 5. Brick paving, Kansas City, Mo. ..... June 30
July 5. Asphalt paving, New Orleans, La. ..... June 30
July 6. Dredging (20,000 cu.yds.), Jersey City, N. J. ..... June 30
July 6. Telephones, etc., Buffalo, N. Y. ..... June 30
July 6. Dam, Ukiah, Cal. ..... June 30
July 6. Bridges, Marysville, Mo. ..... June 30
July 6. Gasoline lights, Cleveland, O. ..... June 30
July 6. Electric lighting Baltimore, Md. ..... June 30
July 6. Electric supplies, Chicago, Ill. ..... June 30
July 6. Repairing pavement, Indianapolis, Ind. ..... June 30
July 6. Macadamizing, Shoals, Ind. ..... June 30
July 6. Opera house, Yazoo City, Miss. ..... June 30
July 6. Paving, Toronto, Ont. ..... June 30
July 6. Dam, etc., Ukiah, Cal. ..... June 30
July 6. Pipe sewers, Owosso, Mich. ..... June 30
Advertised, Engineering News, June 30.
July 6. Building work, Union, N. J. ..... June 30
July 6. Gymnasium building, Boston, Mass. ..... June 30
July 6. Bridge work, Grafton, N. Dak. ..... June 23
July 6. Fire department building, New York, N. Y. ..... June 23
July 6. Fire boat repairs, New York, N. Y. ..... June 23
July 6. Arch and superstructures (2), Mt. Vernon, O. ..... June 23
July 6. Fire engines, etc., New York ..... June 23
July 6. Plumbing, etc., Cleveland, O. ..... June 23
July 6. Boilers (2), Boone, Ia. ..... June 23
July 6. Locktenders' dwellings, Louisville, Ky. ..... June 9
July 6. Plumbing, etc., Cleveland, O. ..... June 16
July 6. Gravel road, Freehold, N. J. ..... June 16
July 6. Levee work, Memphis, Tenn. ..... June 16
Advertised, Eng. News, June 16 to 30.
July 6. Electric lighting, Wooster, O. ..... June 16
July 7. Drainage work, Cornwall, Ont. ..... June 16
July 7. Tow-boat service, Cincinnati, O. ..... June 16
July 7. Jail building, Irwinville, Ga. ..... June 16
July 7. Iron or steel bridge, Kingfisher, Okla. Ter. ..... May 19
July 7. Sewers and water mains, Lamberton, Minn. ..... June 23
July 7. Bridge, Sprague, Wash. ..... June 23
July 7. Plans for sewer system, Lancaster, N. Y. ..... June 23
Advertised, Engineering News, June 23.
July 7. Heating and ventilation, Charles City, Ia. ..... June 23
July 7. Channel work, Barnstable, Mass. ..... June 30
Advertised, Engineering News, June 30.
July 7. Telephone franchise, Lexington, Ky. ..... June 30
July 7. Steel viaduct, Jersey City, N. J. ..... June 30
July 7. Stone coping, Smith's Landing, N. J. ..... June 30
July 7. Dynamo, etc., Bay City, Mich. ..... June 30
July 7. School building repairs, New York ..... June 30
July 7. Paving, Buffalo, N. Y. ..... June 30
July 7. Asphalt paving, Fort Wayne, Ind. ..... June 30
July 7. Church building, Mifflinburg, Pa. ..... June 30
July 7. School building repairs, St. Louis, Mo. ..... June 30
July 7. School building, Wallsville, Utah. ..... June 30
July 7. Macadam road, Kansas City, Mo. ..... June 30
July 8. Water-works, Cambridge Springs, Pa. ..... June 23
Advertised, Eng. News, June 23 and 30.
July 8. Heating, etc., Clarksville, Tenn. ..... June 23
July 8. Bridge, Roseburg, Ore. ..... June 2
July 8. Bridges (2), Farman, N. Dak. ..... June 9
July 8. Steel bridge, Aberdeen, S. Dak. ..... June 16
July 8. Macadam road, Windsor Locks, Conn. ..... June 30
July 8. Paving, etc., Rochester, N. Y. ..... June 30
July 8. Sewers, Le Sueur, Minn. ..... June 30
July 8. School building, Bradford, Pa. ..... June 30
July 8. Macadamizing, etc., East Hartford, Conn. ..... June 30
July 8. Macadam road, Easton, Pa. ..... June 30
Advertised, Engineering News, June 30.
July 8. Gravel road (18 miles), Rockville, Ind. ..... June 30
July 8. Factory building, St. Joseph, Mo. ..... June 30
July 9. Water pipe castings, etc., Huntington, Mass. ..... June 30
July 9. Street bonds, Cadiz, O. ..... June 30
July 9. Boiler house, Washington, D. C. ..... June 30
July 9. Pipe sewers, Des Moines, Ia. ..... June 30
July 9. Fire station, Montreal, Que. ..... June 30
July 9. Grading and graveling, Woodstock, Conn. ..... June 30
July 9. Underground crossing, Kingston, N. Y. ..... June 30
Advertised, Engineering News, June 30.
July 9. Street improvement supplies, Washington ..... June 16
Advertised, Engineering News, June 16.
July 9. Brick paving, etc., Cleveland, O. ..... June 16
July 9. Water-works, Morris, Minn. ..... June 16
July 9. School buildings, Dayton, O. ..... June 9
July 9. Substructure, etc., Cincinnati, O. ..... June 16
July 9. Asphalt paving, Washington, D. C. ..... June 16
Advertised, Engineering News, June 16.
July 9. Highway work, Wapakoneta, O. ..... June 16
July 9. Post office, building, Pottsville, Pa. ..... June 23
July 9. Hospital building, Mendocino, Cal. ..... June 23
July 9. Street work, Athens, O. ..... June 23
July 10. School building, Rush City, Minn. ..... May 26
July 10. Asphalt paving, etc., Spokane, Wash. ..... June 30
July 11. Water conduit, etc., Parkersburg, W. Va. ..... June 30
Advertised, Eng. News, June 30 and July 7.
July 11. Street improvements, Lafayette, Ind. ..... June 30
July 11. Brick paving, etc., Mishawaka, Ind. ..... June 30
July 11. Garbage disposal, etc., White Plains, N. Y. ..... June 30
July 11. Pipe sewers, Parkersburg, W. Va. ..... June 30
Advertised, Eng. News, June 30 and July 7.
July 11. Crib bulkhead, New York, N. Y. ..... June 30
July 11. Bridge, Breckenridge, Minn. ..... May 19
July 11. Paving, Salem, O. ..... June 16
July 11. Paving, Toledo, O. ..... June 16
July 11. Electric light bonds, Wapakoneta, O. ..... June 23
July 11. Hospital building, Newark, N. J. ..... June 23
July 11. Brick paving, Swanton, O ..... June 23
Advertised, Engineering News, June 23.
July 11. Cement sidewalks, South Bend, Ind. ..... June 23
July 12. Macadam road, Ridgefield, N. J. ..... June 23
Advertised, Eng. News, June 23 and 30.
July 12. Road work, Columbus, O. ..... June 23
July 12. Bridge and material, Moscow, Idaho. ..... June 16
July 12. Boiler and engine houses, Evansville, Ind. ..... June 30
July 13. Truss bridge, Gettysburg, Pa. ..... June 30
July 13. Street work (1 street), Hoboken, N. J. ..... June 30
July 13. Steel bridge, Brookings, S. Dak. ..... June 9
July 13. Hospital building, Agnew, Cal. ..... June 23
July 14. Gas lamps (300), Ironton, O. ..... June 16
July 14. Electric lighting, Ironton, O. ..... June 16
July 14. Paving (26,000 sq.yds.), Champaign, Ill. ..... June 30
July 14. Court house, Savannah, Mo. ..... June 30
July 14. Water tower, etc., Chicago Junction, O. ..... June 30
July 15. Electric light plant, Wynne, Ark. ..... June 30
July 15. Church building, Scottdale, Pa. ..... June 30
July 15. Asylum buildings, Huntington, W. Va. ..... June 30
July 15. Church building, Wayne, Neb. ..... June 30
July 15. Water department supplies, St. Louis, Mo. ..... June 30
July 15. Electric plant, Lamar, Colo. ..... May 5
July 15. Electric plant, Gaylord, Minn. ..... June 16
Advertised, Eng. News, June 16 and 23.
July 15. Bridge, Cincinnati, O. ..... June 23
July 15. Harbor work, Goderich, Ont. ..... June 23
July 15. Post office building, Akron, O ..... June 23
Advertised, Eng. News, June 23 and 30.
July 16. Bridge, Norwalk, O. ..... June 23
July 16. Water pipe, Montgomery, Ala. ..... June 23
Advertised, Eng. News, June 23 to July 7.
July 16. Brick sewer, etc., Muscatine, Ia. ..... June 16
July 16. County buildings, Beverley, England ..... June 30
July 18. Iron bridge, Birmingham, Ala. ..... June 30
July 18. Grading and paving, Scottdale, Pa. ..... June 30
Advertised, Eng. News, June 30 and July 7.
July 18. Removing wreck, Philadelphia, Pa. ..... June 30
Advertised, Eng. News, June 30 and July 7.
July 18. Weirs road, Laconia, N. H. ..... June 30
Advertised, Eng. News, June 30 and July 7.
July 18. Street work, Union City, Ind. ..... June 30
July 18. Water pipe, (3,060 ft.), Whiting, Ind. ..... June 30
July 18. Electric light plant, Fitzgerald, Ga. ..... June 30
Advertised, Engineering News, June 30.
July 18. Water-works, Fitzgerald, Ga. ..... June 30
Advertised, Engineering News, June 30.
July 18. Hospital building, Toledo, O. ..... June 30
July 18. Street railway franchise, Salinas, Cal. ..... June 23
July 19. Bridge construction, Chillicothe, O. ..... June 23
Advertised, Engineering News, June 23.
July 19. Granite paving, Rensselaer, N. Y. ..... June 30
July 19. Lighting fixtures, Binghamton, N. Y. ..... June 30
Advertised, Eng. News, June 30 and July 7.
July 20. Pipe sewers, Davenport, Ia. ..... June 30
July 20. Bridges, etc. (11), Chicago, Ill. ..... June 2
Advertised, Engineering News, June 2.
July 20. Embankment, etc., Lemont, Ill. ..... June 2
Advertised, Engineering News, June 2.
July 20. Capitol building plans, Phoenix, Ariz. ..... June 2
July 20. Heat regulating system, Athens, O. ..... June 9
July 22. Hydraulic dredge, St. Louis, Mo. ..... June 23
Advertised, Eng. News, June 23 to July 14.
July 22. Grading, road work, etc., California, O. ..... June 30
July 23. Water-works, Beatrice, Neb. ..... June 30
July 23. Cement sidewalks, Washington, D. C. ..... June 23
Advertised, Engineering News, June 23.
July 25. Water-works, Winnipeg, Man. ..... June 2
Advertised, Eng. News, June 2 to 23.
July 25. Timber, Willetts Point, N. Y. ..... June 30
July 26. Electric light plant, Sycamore, O. ..... June 30
July 26. Water-works, Sycamore, O. ..... June 30
July 27. Water supply, Ridgewood, N. J. ..... June 23
Advertised, Engineering News, June 23.
July 27. Bridge, Carthage, O. ..... June 30
July 28. Masonry work, Louisville, Ky. ..... June 30
Advertised, Eng. News, June 30 to July 21.
July 31. Water supply, Tangier, Morocco. ..... June 23
Aug. 1. Electric light plant, Charleston, S. C. ..... June 30
Advertised, Eng. News, June 30 to July 21.
Aug. 1. Power canal, Ellensburg, Wash. ..... June 30
Aug. 1. Bonds ($8,000.) Ellensburg, Wash. ..... June 30
Aug. 2. Arc lighting, Lebanon, Pa. ..... June 30
Aug. 2. Steel rails, Ottawa, Ont. ..... June 16
Aug. 3. Levee work, West Memphis, Ark. ..... June 30
Advertised, Eng. News, June 30 to July 28.
Aug. 8. Water pipe, etc., Winnipeg, Man. ..... June 16
Advertised, Eng. News, June 16 to 30.
Aug. 15. Exhibition bldg. plans, Glasgow, Scotland. ..... June 2
Aug. 23. Water pipe, Coolgardie, West Australia, ... June 2
Aug. 31. Custom house, Guayquil, Ecuador. ..... Apr. 21
Sept. 1. Battleships (3), Washington, D. C. ..... June 23
Sept. 1. Drainage system, Savannah, Ga. ..... June 30
Advertised, Eng. News, June 23 to Aug. 25.
Sept. 12. Hospital plans, San Francisco, Cal. ..... Mar. 24
Oct. 24. Markets, etc., Belem, Brazil ..... Apr. 28
Oct. 30. School building, Chehalis, Wash. ..... June 16
Dec. 31. Plans for station, etc., Stockholm, Sweden. ..... June 23
No date. Pump (4,000,000 gallons), Austin, Tex. ..... June 30
" . Grading street railway, etc., Cleveland, O. ..... June 30

RAILWAYS.

ALABAMA & TOMBIGBEE.—G. R. Hannon, Gen. Mgr., Fulton, Ala., informs us that contracts have been let for grading, etc., on this proposed railway, and that work is now in progress, four miles of rail having been laid. The proposed route is from Lower Peach Tree to Coffeeville, on the Tombigbee River, via Eustis, Nettleboro, Fulton and Tallahatta Springs a distance of 37 miles, crossing the Mobile & Birmingham R. R. at Fulton. Pres., Jas. S. Burr, Fulton; Ch. Engr., John L. Cowan, Opelika, Ala.

ALBERENE.—R. E. Shaw, Engr. and Secy., Alberene, Va., informs us that this new line of railway has been completed between Warren and Alberene, and that a passenger train and a freight train are running daily, connecting with the James River division of the Chesapeake & Ohio Ry. Pres., C. D. Langhorn, Greenwood, Va.

ATLANTA BELT LINE.—John M. Egan, Vice-Pres., Savannah, Ga., informs us that this proposed belt line at Atlanta, Ga., has been surveyed and the location made, but that nothing has yet been done towards its construction. The road will be about nine miles long and is expected to be operated by steam.

ASHLAND & WOOSTER.—H. B. Camp, Pres., Akron, O., informs us that 14 miles of this proposed railway are now in operation and ten miles are under construction; grading is about completed and rails are being laid. When completed the route will extend from Ashland to Beach City, via Jeromesville, Wooster and Applecreek, O., a distance of 50 miles. J. E. Eberhardt, Ch. Engr., Wooster, O.

BAYFIELD TRANSFER.—E. C. Hollidge, Ch. Engr., Bayfield, Wis., informs us that five miles of this line are built from Bayfield to Redcliff. It is not expected to construct the remaining two miles until next year; the right of way has been obtained and surveys made. Pres., W. F. Dalrymple, Bayfield.

BIG THREE.—D. C. Willett, Pres., Morganfield, Ky., informs us that it is expected to begin construction work soon on this proposed line between Texarkana and Lakeport, via New Lewisville, Magnolia, El Dorado and Hamburg, Kan., a distance of about 200 miles. D. J. Mackey, formerly president of the L., E. & St. L. (Air Line), has become general manager and treasurer, and he has charge of an issue of $3,000,000 of 4% bonds, with which 6,000,000 pine cross-ties are to be offered as a premium.

CLEVELAND & NEW CASTLE.—Geo. L. Bradbury, 623 Monadnock Block, Chicago, Ill., informs us that contracts will be let very soon for constructing this proposed line from Cuyahoga Falls to Youngstown, O., a distance of 70 miles. Surveys are about completed, and the right of way is now being obtained. Pres., J. H. McVey; Ch. Engr., J. H. Pirkey, both of Youngstown, O.

LOUISIANA & NORTHWEST.—Reports state that this company will soon begin the construction of the proposed extension of its line from Bienville to Alexandria, La., a distance of about 90 miles. The railway is at present operated between Homes and Bienville, 36 miles. J. D. Beardsley, Lessee and Gen. Mgr., Gibsland, La.

MANCHESTER, ONEIDA & COLESBURG.—Reports state that the surveys have been made and the right of way obtained for this projected line from Manchester to Colesburg, via Oneida and Petersburg, Ia., 25 miles. C. Shields, St. Paul, Minn., and L. S. Cass and J. H. Rafferty, Waterloo, Ia., are interested.

MEDIX RUN.—A. H. Shafer, C. E., Emporium, Pa., writes us that this company will construct a branch line from Little Medix Junction to Beechville, Pa., 2¼ miles. No work will be let. The present line runs from Medix Run to Orchard Station, about 13 miles, and a further extension of about eight miles to Clearfield is projected.

NEW ENGLAND.—Grading is now in progress on the Norwich & Wooster branch of this railway, between Allyn's Point and Groton, Conn., 6¾ miles. L. B. Bidwell, Ch. Engr., Boston, Mass.

PHILADELPHIA, WILMINGTON & BALTIMORE.—This company is improving its line in Cecil county, Md., by straightening the roadbed from Bacon Hill tower to Charleston and by eliminating a large number of sharp curves. Several new cut-offs near Bacon Hill are now being used for the first time. Simms & Co. are the contractors. A. Feldpauche, Prin. Asst. Engr., Philadelphia, Pa.

RICHMOND, PETERSBURG & CAROLINA.—Gen. Jas. S. Negley, Vice-Pres. and Gen. Mgr., 141 Broadway, New York, informs us that this company has 40 miles of its road graded, and that a large bridge will shortly be completed 18 miles south of Petersburg, Va., to which point the track is being laid rapidly. The first 20 miles of the railway from Petersburg will be in operation by July 15, and it is the intention of the company to push all work actively. The W. P. Chapman Co., of Petersburg, Va., has the general contract.

SKAGUAY & LAKE BENNETT.—Press reports from Seattle, Wash., state that the first mile of railway in Alaska was laid in Skaguay, June 15, and that at that time about five miles of roadbed had been graded. The proposed route is over White Pass. E. B. Hussey, Agent, Seattle.

ST. LOUIS & OKLAHOMA CITY.—Grading is reported to be completed on this new line from Sapulpa, Ind. Ter., to Oklahoma City, Okla., 103½ miles, by July 1. Track laying is now in progress. J. F. Hinckley, Ch. Engr., Sapulpa, Ind. Ter.

TEXAS & PACIFIC.—B. S. Wathen, Ch. Engr., Dallas, Tex., informs us that this company is building a new line from Waskom, Tex., to Reisor, La., 12 miles, which is to be used as a part of the main line instead of the line heretofore leased of the Vicksburg, Shreveport & Pacific R. R. Co., from State Line to Shreveport, La. The grade at Marshall, Tex., is being reduced from 1¾% to 1%, at a cost of $25,000; and about 40 trestles have been filled with material taken from Marshall Hill. A number of new stalls are being added to the round houses at El Paso, Toyah and Baird, Tex. New yards will be made at Reisor, consisting of six new tracks about 20,000 ft. in length. It is also expected to change the grades between Marshall and Waskom, reducing the same to 8-10 of 1%, and the grades between Marshall and Boyce, La., and from Boyce to New Orleans.

TOLEDO & NORTHWESTERN.—About 20 miles of this proposed railway from Albion to Charlotte, via Duck Lake and Brookfield, Mich., 23 miles, are said to have been graded. A 16-mile extension from Albion to Hanover is also proposed. The general contract for the construction and equipment of the line is held by the Chicago & Cleveland Construction Co., Tacoma Bldg., Chicago, Ill. Pres., Gilson E. Murdock; Ch. Engr., D. C. Dunlap, both of Albion, Mich.

WAYCROSS AIR LINE.—L. Johnson, Supt., Waycross, Ga., informs us that the extension of the main line of this railway from Nicholls to Douglass, Ga., 12½ miles, is well under way, and that the work will be completed about August 15. The contract is held by J. H. Powers, of Fort Valley, Ga. Pres., B. A. Denmark, Savannah, Ga.

WELLINGTON & POWELLSVILLE.—J. W. Branning, Pres., Edenton, N. C., informs us that this company is building an extension to its line from Windsor to Ahoskie,

N. C., a distance of about 18 miles. New buildings and shops are being built at Windsor, and a trestle over Stony Creek is being filled in.

WESTERN AMERICAN.—T. B. Corey, Gen. Supt., Seattle, Wash., informs us that Rich & Dingle, of Prosser, Wash., have been awarded the contract for grading this proposed line from Carbonado to Fairfax, Wash., a distance of seven miles. The contract for the bridges, trestles and clearing (35 acres) has been awarded to the Zindorf Construction Co., of Seattle. The surveys have been made, the right of way obtained and all the capital secured. H. W. McNeill, Pres. Western American Co., Colonsay, Seattle; M. Stixrud, Ch. Engr., Seattle.

WEST VIRGINIA CENTRAL & PITTSBURG.—J. W. Galbreath, Ch. Engr., Elkins, W. Va., informs us that the Columbus Construction Co., Columbus, O., is constructing an extension of this line from Beverly to Huttonsville, W. Va., a distance of 11 miles. A 5-span deck girder bridge, 250 ft. in length, will be erected.

STREET AND ELECTRIC RAILWAYS.

BENTON FALLS, ME.—John T. Richards, Chas. D. Brown, Elisha Morgan, Edwin W. Heath and H. M. Manfield have organized a company to build an electric railway, for passengers and freight, from this place to Fairfield. E. F. Webb, Atty., Waterville, may be addressed.

LEWISTON, ME.—The board of railroad commissioners has given the permission necessary to build the proposed electric railway from Sabbatus to this city, and construction has been begun, according to reports. J. A. Jones, Ch. Engr., Lewiston.

GRAFTON, MASS.—The selectmen have granted a franchise to the Grafton Union St. Ry. to lay tracks between this place and Upton.

TAUNTON, MASS.—The Taunton & East Taunton St. Ry. Co. has been granted a charter by the railroad commissioners, to build a line four miles long. The directors are: M. A. Cavenaugh, C. R. Richmond, J. R. Murphy, T. F. Cavenaugh, J. P. Dunn and C. R. Barstow, of Taunton; and S. F. O'Hara, Middleboro.

LITTLE FALLS, N. Y.—W. F. Lansing, Gen. Mgr., of the Little Falls & Herkimer St. Ry. Co., informs us that all the preliminary steps in the proposed extension of this electric road, noted in our issue of June 2, have been taken, and the permission to lay tracks been obtained, and that work will be begun very soon. Beckwith & Quackenbush have been given the contract to build the roadbed. John V. Quackenbush, Pres., Mohawk; S. E. Babcock, Ch. Engr.

NEW HARTFORD, N. Y.—The Utica Belt Line St. R. R. is reported to have secured a franchise for a proposed extension of its line from this place to Chadwick. Edw. Bushinger, Utica, Secy.

NEW YORK, N. Y.—It is reported that the Brooklyn Elevated R. R. will equip its Fifth Ave. line with the third-rail system of electricity, next fall. The Nassau Electric R. R. Co. is being reorganized, according to reports, with $6,500,000 preferred stock and $8,000,000 common stock, sufficient to absorb all the other companies, whose lines are now leased or controlled by it. In addition, $13,500,000 in bonds will be issued.

YORKTOWN, N. Y.—The commissioners of highways of this town have granted a franchise to the Peekskill Traction Co. to construct and maintain a street surface railway through this place.

ATLANTIC CITY, N. J.—The New Jersey Electric Ry. Co. has been given permission by the council, according to press reports, to build a trolley line from the city limits to a terminal at Maryland and Atlantic Aves., and to erect a station at the latter point. The company is not yet incorporated but will have a capital of $2,000,000. The road will run from Camden to this city, 57 miles, and the third-rail system will probably be used. The officers are: J. J. Paterson, Pres., Philadelphia, Pa.; Frank A. Souder, Secy.; W. I. Garrison, Solicitor.

HACKENSACK, N. J.—The Bergen County Traction Co. is planning to extend its electric line from Fort Lee to this town at once. J. E. Ridgway, Pres.; W. N. Barrows, Secy. and Treas.; J. B. Anderson, Ch. Engr., foot of West 130th St., New York.

ERIE, PA.—The Erie Rapid Transit St. Ry. Co. has been incorporated with $300,000 capital, to build 20 miles of electric street railway in this city. The incorporaters are: Wm. E. Hayes, Pres.; John W. Little, Bennett A. Stewart, Edson T. Moore, and Henry C. Yard, all of this city.

HARRISBURG, PA.—The committee of the board of directors of the Harrisburg Traction Co. has reported against the feasibility of the proposed route of the extension to Rockville, according to report.

PITTSBURG, PA.—The United Traction Co. will probably build an extension to its Second Ave. line, from Calhoun Park to Duquesne. Secy., J. H. Callahan.

WASHINGTON, D. C.—The contract for the brick work of the new power house of the Potomac Electric Power Co., which will supply the power for the operation of the Washington City & Suburban R. R., has been given to Richardson & Burgess. The contract for the iron work has been awarded to the Berlin Iron & Bridge Co., East Berlin, Conn.

CLEVELAND, O.—Bids are being received for grading the Cleveland & Burton St. Ry. through Geauga county; also for furnishing and delivering 90,000 cross ties of white oak, chestnut, cherry or cedar. Address the Standard Contracting Co., 57 Wade Bldg., Cleveland.

HAMILTON, O.—Bender Bros. have been awarded the contract, according to report, for the erection of the carbarn, machine shop and power house of the Cincinnati & Hamilton Electric St. Ry.

BRAZIL, IND.—Dr. J. D. Sourwine, Vice-Pres. of the Brazil St. Car Co., is reported to have applied to the county commissioners for a franchise for an electric railway from this city to the Vigo county line, via the National road.

GALESBURG, MICH.—The village council has extended the franchise of the Michigan Traction Co. one year from July 13, according to report. Secy., Dee Allen.

AVON, MICH.—The township board has granted a franchise for the electric road to run from Royal Oak to Romeo, through this place, to A. F. Newberry and J. H. Holman, of Rochester, Mich., and John Scott and Fred. Baker, of Detroit.

SAGINAW, MICH.—The council has granted a 25-year franchise to C. S. Shepard, L. D. Loring and Chas. E. Eddy to build an electric street railway in this city.

FORT SCOTT, KAN.—The Citizens' Ry. Co. has purchased the street railway lines of this city for $160,000, according to report.

AUSTIN, TEX.—It is reported that a syndicate, headed by E. A. Ellis, of Dallas, Tex., contemplates the construction of a new system of street railway in this city.

DENVER, COLO.—It is reported that work has been begun on the Loretto Heights Ry. in this city. T. H. Malone may be addressed.

HAMILTON, ONT.—The Hamilton, Ancaster & Chedoke Electric Ry. Co. has secured $30,000 of the $40,000 capital required, and construction will soon begin. E. A. Clifford, Pres.; W. F. Walker, Secy. and Treas.

ELECTRIC LIGHT AND POWER.

BRATTLEBORO, VT.—Butts & Crosby, Hartford, Conn., are reported as making estimates for the proposed power plant and dam on West River at West Dummerston. J. G. Ullery, Brattleboro, is interested.

WESTERLY, R. I.—A committee is reported as considering the question of putting in a plant. Population (1895), 7,635. L. W. Arnold, Chn.; A. H. Langworthy, Treas.

BINGHAMTON, N. Y.—Bids are asked until July 19 for furnishing and hanging combination gas and electric lighting fixtures for the new city hall, as stated in our advertising columns. B. W. Mosher, Cy. Clk.

COLLINS, N. Y.—The board of managers of the Collins State Hospital received the following bids June 23 for furnishing and installing a plant at the hospital and for electric wiring of the building; Electric light plant, Utica Electric Co., $8,528; F. P. Little Co., $7,620; F. P. Jones, $8,350; McCarthy Bros. & Ford, $7,155; J. F. Buchanan & Co., $8,188. Wiring and supplying the electric fixtures: J. F. Buchanan & Co., $3,117; Utica Electric Co., $3,556; T. H. Flach & Son, $2,697; J. C. Stearns, $2,994; Robinson & French Electric Co., $3,473.50; F. P. Little Co., $3,275.

NORTH TONAWANDA, N. Y.—This place has voted to appropriate $15,000 for additional lighting.

UTICA, N. Y.—The Newport Electric Light & Power Co. has been organized to build a power plant on the West Canada Creek at Newport. W. D. Grant, Utica, writes us under date of June 28 that the time for receiving bids has been closed. The plant will have 30 arc and 600 incandescent lights; estimated cost, $10,00.

SEASIDE PARK, N. J.—Edgar A. Alcott, Mount Holly, N. J., has been awarded the contract for constructing the proposed plant and water-works.

LEBANON, PA.—Bids are asked until Aug. 2 for furnishing the city with 125 2,000-c. p. arc lights, beginning with June 1, 1899. Mayor, J. A. Weimer; Chn. Com., Geo. B. Schock.

SALISBURY, PA.—S. D. Livengood, Meyersdale, Pa., is reported as interested in a proposed plant for this place.

WAVERLY, PA.—The Waverly Electric Light & Power Co. will extend its plant, according to reports.

BALTIMORE, MD.—Bids are asked by the public park commission, 814 Merchants' Bank Bldg., until July 6, for electric lighting the public parks.

HAGERSTOWN, MD.—The street commissioners have received a proposition from the Hagerstown St. Ry. Co., which recently bought the local electric light plant, to furnish Hagerstown with 90 arc lights of 2,000-c. p. each for $7,000 a year, providing a 10-year contract is made. The town now pays $6,000 for 80 arc lights of 1,500 c. p. President Lynch, of the street railway company, has told the commissioners that his company was about closing negotiations for a site upon which to erect a new light plant in Hagerstown.

CHARLESTON, S. C.—Bids are asked until Aug. 1 for furnishing and installing a plant at Battery Jasper, Sullivan's Island, as stated in our advertising columns. Maj. E. H. Ruffner, U. S. Engr.

FITZGERALD, GA.—Bids are asked until July 18 for furnishing the material and constructing an electric light plant, as described in our advertising columns. C. C. Goodnow, Mayor.

UNION SPRINGS, ALA.—P. L. Cowan, Clk., writes us that the $20,000 in bonds for the proposed electric light plant have not yet been sold. Population, 3,000. J. D. Norman, Mayor.

BELLAIRE, O.—This place is reported to have voted to put in electric lights. Population (1890), 9,934. J. R. Gow, Cy. Clk.; Frank Williams, Mayor.

COLUMBUS, O.—It is stated that the board of trustees of the Ohio School for the Deaf proposes to install electric lighting in all the buildings this summer.

SYCAMORE, O.—Bids are asked until July 26 for furnishing and installing a plant and water-works complete; estimated cost, $20,000. Engr., G. L. McKibben, Van Wert, O.; Clk., E. J. Eyestone.

GAS CITY, IND.—This city is completing the construction of water-works and light plant, costing about $45,000. The Seckner Contracting Co., Chicago, is the contractor. The work was done under Jas. B. Nelson, 61 Baldwin Block, Indianapolis, as consulting engineer. The plant will be turned over to the city this week. The plant includes 7 miles of 4 to 12-in. water mains, 60 hydrants, 34 2,000-c. p. arc lights; also provision for 1,500 16-c. p. incandescent lights. The city will soon purchase 1,200 ft. hose, with hose carts, etc. It will also probably purchase incandescent lamps and furnish to consumers. Population, 4,500.

BAY CITY, MICH.—Bids are asked by the city lighting committee until July 7 for furnishing a 45-K-W. dynamo, an exciter, meters, double-pole switch, etc. Alex. McEwan, Mayor.

CASS CITY, MICH.—Geo. Cadogan Morgan, 808 Royal Insurance Bldg., Chicago, has been engaged to prepare plans and specifications for the proposed plant and waterworks. The plant will have a capacity for 24 arc and 280 incandescent lights; estimated cost, $4,000. J. H. Shiffler, Pres.

YALE, MICH.—E. F. Fead, Village Clk., writes us that the plans and specifications for the plant and waterworks will be ready for bidders July 1. Population, 1,200.

CHICAGO, ILL.—Bids are asked until July 6 for furnishing 45,499 lbs. of No. 10 hard drawn copper wire, 515 lbs. of No. 12 hard drawn copper wire, 25 miles of No. 10 weatherproof hard drawn copper line wire, 330 40-ft. telegraph poles, 7-in. tops; 500 ten-pin cross-arms, 1¼-in. holes; 80 ten-pin cable cross-arms; 6,000 1¼-in. locust pins, 100 1¼-in. transposition pins (locust), 100 1¼-in. transposition pins (locust), 1,000 steel pins; 5,000 D. G. D. P. glass insulators, 500 transportation glass insulators, 500 glass knobs and screws, 1,000 1½ x 7-in. lag bolts, 5,000 galvanized pole steps, 9 x ⅝ ins.; 700 lbs. of No. 10 soft copper tie wires, cut in 20-in. lengths; 800 No. 10 and No. 12 combination McIntyre connectors, 7,000 ft. of No. 14 B. & S. G. conductor cable, 9,000 ft. of No. 14 B. & S. G. rubber-covered and braided wire; 5 miles of No. 6 galvanized-iron wire, extra B. B.; 10 miles of No. 9 galvanized-iron wire, extra B. B; 1 mile of No. 14 galvanized-iron wire, extra B. B.; 1,200 ground rods, 60 lbs. of Chatterton compound, 200 lbs. of wire solder, 1,000 cells of dry batteries. Edward B. Ellicott, Cy. Electrician, City Hall.

WEST SUPERIOR, WIS.—Press reports state that the city has received two propositions for city lighting, one from the Superior Water, Light & Power Co., and the other from a local concern through Attorney E. G. Mills, which desires to erect a plant for the city. The water company has made a proposition which will save the city $20,000 per year, beside expressing a desire to cancel old contracts with the city which would be to its benefit. It asks for a 5-year contract. The Mills proposition is to erect a plant with sufficient capacity to light the city for $35,000 and run it for the first year for the city for $6,500 more.

MADISON, MINN.—W. I. Gray & Co., 703 Sykes Block, Minneapolis, Minn., have been awarded the contract for building the plant, at $7,350.

HORTON, KAN.—At a public meeting the citizens voted in favor of granting a franchise for a plant, instead of municipal ownership. F. M. Wilson, W. R. Honnell and Mayor Letson are interested.

GOWER, MO.—This council is reported as considering the question of building a plant.

WYNNE, ARK.—Bids are asked until July 15 for furnishing and installing a plant, according to reports. The plant will have a capacity for furnishing 10 arc and 300 incandescent lights. Geo. W. Eldridge, Cy. Recdr.

ELLENSBURG, WASH.—Bids are asked until Aug. 1 for constructing a power canal about 4½ miles long. We are informed that the council proposes to change the power at the plant from steam to water. Bids are also asked for the purchase of $8,000 of bonds. Estimated cost, $10,000. Engr., E. I. Anderson, Ellensburg; Cy. Clk., W. H. Greenhow.

LOS ANGELES, CAL.—We are informed that bids were asked until June 27 for furnishing a plant for lighting the city with 735 2,000-c. p. lights on seven propositions viz.: (1) Present system, the company to furnish everything; (2) the same as No. 1, but substituting individual lights for 4-light 150-ft. masts; (3) power per kilo-watt hour; (4) construction of pole and wire line, to cost about $45,000; (5) from 500 to 1,000 2,000-c. p. series arc lamps, and (6 and 7) repair and maintenance of No. 4. Ira J. Francis, Cy. Electrician.

RANDSBURG, CAL.—E. G. Bamer, Engr.-in-Charge of the surveying corps of the Kern-Rand Co., Los Angeles, has stated that the line has been surveyed from Kern River to Randsburg, a distance of 45 miles. He and his assistants have started to run a direct line to the mining camp of Acton, between Mojave and Los Angeles. It is expected that the company will be furnishing power to the camp before the end of the year.

SAN FRANCISCO, CAL.—The residents of Lake View and Ingleside have asked the supervisors to extend the electric light line to these suburbs.

SHAWVILLE, QUE.—A company is reported as being organized to build a plant and water-works for this place.

HALIFAX, N. S.—The Intercolonial Ry., it is reported, will soon have a lighting and power plant for the line. A. G. Blair, Minister Rys. and Canals, Ottawa, Ont.; D. Pottinger, Gen. Mgr.

FREDERICTON, N. B.—Redfield Proctor, U. S. Senator, Proctor, Vt., and Washington, D. C.; James Manchester and Col. H. McLean, St. John, N. B., are reported as interested in the proposed plant for the Grand Falls Power Co., at Grand Falls; estimated cost, $1,000,000.

NEW COMPANIES.—Peninsular Electric Light Co., Detroit, Mich.; $150,000; David Whitney, Jr., Geo. Peck, Jas. E. Clough.

People's Electric Light, Heat & Power Co., Nanticoke, Pa.; $75,000, with $7,500 paid in; M. W. Morris, Pittston, Pa.; J. A. Bullard, Wilkes-Barre, Pa.; Treas., J. A. Morris, Wilkes-Barre.

Gothenburg Water Power & Irrigation Co., Gothenburg, Neb.; $300,000; A. M. Allen, M. P. Allen.

Ruch Electric Co., Columbia City, Ind.; $21,500; Joseph H. Ruch, Samuel A. Ruch, George W. Ruch.

Rockford Electric Light & Power Co., Rockford, Ill.; $50,000; F. M. Ellis, W. E. Dewey, C. F. Warner.

Silver King Anchor Electric Light Co., Park City, Utah; $10,000; W. V. Rice, Barton Wherritt.

Lamar Electric Light Co., Lamar, Colo.; A. C. Bent, M. Stram, J. W. Bent.

Mingo Junction Light & Water Co., Mingo Junction, O.; $50,000; the company was recently granted a franchise, as noted in our issue of June 2; Pres., Ezra P. Young, Sewickley, Pa.; Secy. and Treas., Benj. L. Hirshfield, 427 Diamond St., Pittsburg, Pa.

BRIDGES.

FAIRFAX, VT.—The town voted last week to build a bridge over Mill Brook, and left it with the town selectmen to decide between an iron or a wooden bridge.

JERSEY CITY, N. J.—Bids are asked until July 7 for constructing a steel viaduct over the railroad tracks on the extension of the Hudson Boulevard. Ed. W. Wooley, Clk. Bd. Freeholders.

PASSAIC, N. J.—Bids are asked until July 2 for constructing a steel plate girder bridge at Wall St. Christian Huber, Chn. Com. Bd. Freeholders.

GETTYSBURG, PA.—Bids are asked until July 13 for the construction of a truss bridge over Conowago Creek, in Butler township, according to reports. Henry Hantz, County Comr.

WEST SCRANTON, PA.—Joseph Oliver, Secy., 1317 Hampton St., informs us that nothing has been done toward the construction of the proposed bridge between Seventh and Ninth Sts., on West Lackawanna Ave., and that an election will have to be held to vote on an appropriation.

NEWPORT NEWS, VA.—Geo. Y. Alsop, Cy. Engr., has been instructed to prepare plans for two bridges, at 25th and 34th Sts. A proposition to issue bonds for their construction has been defeated.

BIRMINGHAM, ALA.—Bids are asked by the county commissioners until July 18 for constructing an iron bridge across Valley Creek, near Brighton.

JACKSON, MISS.—Walter G. Kirkpatrick, Cy. Engr., writes us that plans are nearly ready for a steel bridge 100 ft. wide and 86-ft. span, with masonry abutments, and for a brick or Melan arch bridge.

SHREVEPORT, LA.—Bids are asked until July 5 for constructing eight county bridges. P. Youree, Pres.; A. L. Duringer, Clk.

COVINGTON, KY.—The Chesapeake & Ohio Ry. Co. has presented an ordinance to the council for the right to construct a bridge of two spans, 95 ft. each, across the tracks at 15th St. Address W. T. Smith, Covington.

CARTHAGE, O.—Bids are asked until June 27 for constructing a bridge over Mill Creek. Eugene L. Lewis, County Audr., Cincinnati.

DELAWARE, O.—J. B. Taggart, Cy. Engr., informs us that the following bids were received June 17 for the superstructure of a bridge, 125 ft. long:

Toledo Bridge Co., Toledo, O. (accepted)	$2,287
Bellefontaine Bridge Co., Bellefontaine, O.	2,290
Penn Bridge Co., Beaver Falls, Pa.	2,310
Virginia Bridge Co	2,350
King Bridge Co., Cleveland, O.	2,420
New Columbus Bridge Co., Columbus, O.	2,415
Pittsburg Bridge Co., Pittsburg, Pa.	2,395
Wrought Iron Bridge Co., Canton, O.	2,500
Havana Bridge Co., Montour Falls, N. Y.	2,500
Delaware Steel Bridge Co., Delaware, O.	2,400
Horsehead Bridge Co., Horsehead, N. Y.	2,425
Iron Substructure Co., Columbus, O.	2,300

LEAVITTSBURG, O.—The Youngstown Bridge Co., Youngstown, has been awarded a contract at $3,290 for constructing a bridge over the Mahoning River.

RICHMOND, IND.—It is reported that the county commissioners will construct several small bridges this summer. R. A. Howard, County Surveyor.

MUSKEGON, MICH.—We are informed that negotiations regarding the bridge at Beidler St. have only just been begun between the city and the interested railways, and that the proposition has not yet been decided upon. E. H. Barnes, Res. Engr., Grand Rapids & Indiana Ry., Grand Rapids.

URBANA, ILL.—Bids are asked until July 7 for constructing six highway bridges on masonry substructures. Ira O. Baker, Engr., Champaign, Ill.

MARYVILLE, MO.—Bids are asked until July 6 for constructing a number of bridges, according to reports. Jay K. Young, Bridge Comr.

GALENA, MO.—Reports state that a bridge will be constructed across Short Creek. Address Frank Moore or Engineer Miles, Carthage.

DENVER, COLO.—Bids are asked until July 1 for the purchase of $6,000 of bridge bonds. T. S. McMurray, Mayor.

SPOKANE, WASH.—Bids are asked until July 5 for the construction of a steel bridge about 500 ft. long and about 50 ft. of wooden trestle approach, for carrying the water mains across the Spokane River, at the pumping station. B. H. Fowle, Secy. Bd. Pub. Wks.

BRANTFORD, ONT.—Bids are asked until July 1 for the construction of a 100-ft. steel bridge over Fairchild's Creek. R. M. Wilson, Clk.

BUILDINGS.

BOSTON, MASS.—Bids are asked by the Bath Commission, of Boston, 64 Pemberton Square, until July 6, for erecting a gymnasium building in Commonwealth Park, South Boston; bond required, $3,000. Chn., Thomas J. Lane.

ALBANY, N. Y.—The council has voted to appropriate $50,000 to assist in erecting the new station that the New York Central & Hudson River R. R. Co. expects to build in this city at a cost of about $1,500,000.

BIRMINGHAM, N. Y.—The contract for heating and ventilating the new attendants' building for the Birmingham State Hospital has been awarded to Ford Bros., of Oswego, N. Y., at $2,500; for electric wiring and fixtures, to F. P. Little, of Buffalo, N. Y., at $1,070; for the building, to A. W. Reynolds, of Birmingham, at $14,485.

COLLINS, N. Y.—The following bids were received June 23 for the construction of two groups of buildings, consisting of an associated dining-hall, kitchen, bakery, employees' quarters and laundry, for the Collins State Hospital: Grattan & Jennings, of Buffalo, N. Y., $115,250; Charles Berrick's Sons, $123,000; Henry Schaefer's Sons, $124,900; E. M. Hager & Sons, $124,049. The lowest bid for wiring the building and supplying the electric fixtures was that of T. H. Flach & Son, at $2,697; the lowest for constructing an electric light plant, McCarthy Bros., at $7,155.

LOCKPORT, N. Y.—A. M. O'Brien and W. E. Huston, of Lockport, have been awarded the contract for building a new car barn in this city, 190 × 55 ft., for the Buffalo & Lockport Ry. Co., to cost about $10,000.

NEW YORK, N. Y.—Bids are asked by the board of education, at 585 Broadway, until July 7, for making alterations, repairs, etc., at Public Schools 50, 53, 59, 74 and 76; also for improving the sanitary condition of Public Schools 5, 9, 10, 48, 77, 82, 85, 86, 89, 117, 118 and 141; also for supplying new school furniture for old school buildings; also for making alterations and repairs to Public School 21, located in the Borough of Richmond; also for supplying heating and ventilating appratus for Public School 20, located in the Borough of Richmond.——We are informed that bids will soon be received for the construction of a brick and stone fireproof church building, 80 × 156 ft., with gallery, for St. Jerome's R. C. Church, at 138th St. and Alexander Ave., to cost about $100,000. Pastor, P. W. Tandy; Archs., Deilhl & Howard, 1193 Broadway.——Plans are being prepared for four flat buildings to be erected on 63d St., near West End Ave., for B. Cooney, to cost, $60,000; also for two apartment buildings on West 116th St., to cost $70,000. Arch., Samuel Sass, 23 Park Row.——The contract for the masonry work on the new building to be erected for the United Hebrew Charities Association, has been awrded to L. A. Burke & Co. The contract for the cut stone work went to B. A. & G. N. Williams, and for the iron, to Cooper & Wiegand, 1133 Broadway. Archs.. De Lemos & Cordes, 87 Nassau St.——Plans have been filed by Birkmire & Moxley, 320 Broadway, for a 10-story brick office building at 396 and 398 Broadway, to cost $250,000. Arch., Wm. H. Birkmire; by Almy G. Gallatin, 671 5th Ave., for an 8-story brick store and warehouse at 892 Broadway and 27 East 19th St., to cost $250,000. Archs., J. B. Snook & Sons, 261 Broadway; by E. W. Kilpatrick, for two 6-story brick tenement buildings at 95th St. and Madison Ave., to cost $90,000. Arch., Frederick Jacobson, 1539 Broadway; by Sonn & Rottfeld, 386 Washington St., for a 3-story brick and stone warehouse at 104th St. and Columbus Ave., to cost $50,000. Arch., Franklin Baylies, Bible House.

TUXEDO PARK, N. Y.—M. W. & H. De Baun, of Nyack, N. Y., have secured a contract for erecting a new residence at this place for Henry I. Barbey, at a cost of $70,000, according to reports.

BLOOMFIELD, N. J.—New bids will be received, according to reports, for the erection of the Brookside school building, to cost about $30,000. Arch., Chas. G. Jones, 280 Broadway.

MILLVILLE, N. J.—A fire at this place June 26 destroyed the opera house and other buildings, causing a reported loss of $50,000.

NEWARK, N. J.—We are informed that the following contracts were awarded June 22 for constructing the new library building in Washington Park for the Free Public Library. Archs., Rankin & Kellogg, 1024 Walnut St., Philadelphia, Pa.: Henry Dickson, Newark, mason work, $145,600; V. J. Hedden & Sons, Newark, carpentry, $38,660; Patrick Callan, Newark, plumbing, $4,200; Blake & Williams, 362 West Broadway, New York, electrical work, $6,934; Philadelphia Steam Heating Co., 1513 Filbert St., Philadelphia, heating and ventilating, $17,428. The subcontractors for the masonry work are: George Brown & Co., limestone; Davidson Marble Co., marble; William H. Turrell, cement; Standard Terra Cotta Company, terra cotta; Fawcett & Macknite Co., or Central Fireproofing Company, fireproofing; Cooper & Wiegand, iron and steel; George W. Luchenan, ornamental iron work; Newark Bluestone Company, bluestone; White Granite Co., granite. A total of 35 bids were received.

UNION, N. J.—Bids are asked by the board of education, at New York Ave. and Morgan St., until July 6, for the alterations and additions to the second story of Town Hall, at Lewis St. and Palisade Ave.; deposit required, $100. Pres., Ralph D. Earle, Jr.; Arch., Wm. J. King, 534 Fulton St., Union.

BRADFORD, PA.—Bids are asked by the board of education until July 8 for erecting a new 3-story brick school building. Arch., Pierce & Bickford, Elmira, N. Y.

MIFFLINBURG, PA.—Bids are asked until July 7 for the erection of a brick and stone church building for the Evangelical Lutheran Church. Pastor, C. Luther McConnell; Arch., J. A. Dempwolf, York, Pa.

PHILADELPHIA, PA.—Plans have been prepared for a public wharf and pavilion to be erected at Bridesburg, on the Delaware River, the pavilion to be a double deck structure of steel. Archs., Hazlehurst & Huckel, 913 Girard Bldg.——It is announced that F. L. Michaelson has prepared plans for the erection of 144 three and two-story brick dwellings at 52d St. and Westminster Ave., to cost about $500,000.

PITTSBURG, PA.—The Allegheny United Presbyterian Church has accepted plans for the new 5-story theological seminary building to be erected at North Ave. and Buena Vista St., at a cost of about $80,000. Archs., Struthers & Hannah, 4 Eighth St.

SCOTTDALE, PA.—Bids are asked until July 15 for the erection of a brick church building at Chestnut and Mulberry Sts., for the First Presbyterian Church. J. D. Hill, Pres. Bd. of Trustees.; J. E. Allison, Arch., Lewis Block, Pittsburg, Pa.

BALTIMORE, MD.—Plans have been accepted for the new wing, 40 × 177 ft., to be added to the building of the Maryland House of Correction, at a cost of $80,000. Arch., Joseph E. Sperry, 601 Herald Bldg., Baltimore.

WASHINGTON, D. C.—Henry A. Talbert, of Barnegat, N. J., has been awarded the contract for building eight new life saving stations on the New Jersey coast at Mantoloking, Island Beach, Ships Bottom, Little Egg Harbor, Brigantine, Peach's Beach, Corsen's Inlet and Holly Beach, respectively. Total cost, about $60,000. Horace L. Piper, Gen. Supt. Life Saving Service, Washington, D. C.

WASHINGTON, D. C.—Bids are asked by the district commissioners until July 9 for constructing a boiler house on the grounds of the Industrial Home School, near Georgetown and Rockville Road.

NEWPORT NEWS, VA.—Peddicord & Co. are stated to have been awarded the contract for erecting a new high school building in this city, at $19,845. J. C. Cooper, Pres. Bd. School Trustees.

HUNTINGTON, W. VA.—Bids are asked until July 15 for erecting buildings for the Home for the Incurables. Mary J. Ruffner, Pres. Bd. Trustees, Charleston, W. Va.

NEW MARTINSVILLE, W. VA.—Bids are asked by Brast Bros. until July 1, according to reports, for constructing a new hotel building. Archs., W. B. O'Neill Co., Marietta, O.

RALEIGH, N. C.—Dowd & King, Charlotte, N. C., have been awarded the contract for the ventilation and heating of the Baptist Female University Building, at $3,799. The work wil require 5,329 sq. ft. of radiation, and two steam heaters.

YAZOO CITY, MISS.—Bids are asked by the Citizens' Opera House Co. until July 6 for the erection of a 3-story opera house. Pres., John Lear; Archs., W. Chamberlin & Co., 510 Prince St.

TOLEDO, O.—Bids are asked by the trustees of the Toledo State Hospital until July 18 for erecting a hospital building. Secy., H. A. Tobey; Arch., E. O. Fallis, Chamber of Commerce Bldg., Toledo.

DETROIT, MICH.—It is reported that the board of public works will readvertise for bids for constructing the new market and memorial building for the Grand Army of the Republic, to cost about $44,000. Arch., Julius Hess, 42 Buhl Block.

DETROIT, MICH.—Bids are asked until July 5 for constructing a public shelter building at Belle Isle Park. P. H. A. Balsley, Pres. Dept. of Parks, Peninsular Bank Bldg.

HILLSDALE, MICH.—The contract for constructing the new court house is stated to have been awarded to Geake & Henry, Fort Wayne, Ind., at $41,897. Arch., Claire Allen, Jackson, Mich.

CHICAGO, ILL.—Plans have been prepared for the St. Paul's Episcopal Church, according to reports, for a new church building to be erected at Madison Ave. and 50th St.; estimated cost, $60,000. Arch, John Sutcliffe, 234 La Salle St.——Plans are being prepared for a 6-story brick and iron wholesale store building to be erected at 282 and 284 5th Ave. for Charles Yondorf, 365 Blue Island Ave., to cost about $60,000. Arch., Dankmar Adler, Auditorium Bldg.

MORGAN PARK, ILL.—Plans are being prepared for a new 3-story brick and stone dormitory building at this place for the Morgan Park Academy, to cost about $40,000. Arch., Dankmar Adler, Auditorium Bldg., Chicago, Ill.

SUPERIOR, WIS.—It is reported that the Broadway Building Co., of Boston, will begin the construction of a 6-story brick and stone office building at Broadway and Tower St., to cost $150,000. Arch., Carl Wirth, Empire Block, West Superior, Wis.

WASECA, MINN.—Bids are asked by the directors of the Waseca County Farmers' Elevator & Mercantile Association until July 2 for the erection of a complete elevator plant of 25,000 bushels capacity. Secy., George H. Remund.

FORT DODGE, IA.—Plans have been prepared, according to reports, for a 3-story brick and iron business building, 27 × 100 ft., for John Doud, Jr. Arch., J. H. Albright.

LINCOLN, NEB.—A fire in this city June 22 destroyed the Fitzgerald Building, occupied by the H. P. Lou Grocery Co. and the Beatrice Creamery Co.; estimated loss, $200,000.

WAYNE, NEB.—Bids are asked until July 15 for the erection of a church building for the Presbyterian Church in this city. E. D. Mitchell, Chn. of Com.; Pass & Schippel, Archs., Mankato, Minn.

KANSAS CITY, MO.—We are informed that bids will be received in July for remodeling the Union Depot in this city, at a cost of about $30,000. Plans and specifications are not quite ready as yet for estimates. Archs., Van Brunt & Howe, 1214A Main St.

ST. LOUIS, MO.—Bids are asked until July 7 for repairs to a number of public school buildings. Wm. B. Ittner, Comr. of School Bldgs.——Plans have been prepared, according to reports, for a 6-story brick and stone office and warehouse building, to cost about $30,000. Arch., J. Harry Randall, 919 Wainwright Bldg.

SAVANNAH, MO.—Bids are asked by Andrew county until July 14 for the erection of a 2-story and basement brick and stone fireproofed court house; estimated cost, $37,500. Alfred Meier, Supt. of Construction, St. Joseph, Mo.

STILLWATER, OKLA.—Bids are asked by R. J. Edwards until July 5 for the erection of a 2-story stone mechanical hall, 32 × 80 ft., for the Agricultural College. Arch., David Douglas, Oklahoma City.

ALBUQUERQUE, N. MEX.—The grand opera house building in this city has been burned at a loss of about $75,000. It is reported that the owner, A. A. Grant, of San Francisco, Cal., will rebuild.

SAN FRANCISCO, CAL.—The following bids have been received by the supervising architect, Washington, D. C., for the steel and iron work for the San Francisco Court House:

		Time.
J. G. Wagner, Milwaukee, Wis.	$164,400	9 mos.
McGuire & Hall, New York.	166,498	10 "
Stewart Iron Works, Cincinnati, O.	179,900	10 "
Edward Francis Jones, San Francisco.	176,116	9 "
[1]Risdon Iron & Locomotive Works.	174,875	8 "
San Francisco Bridge Co., S. Francisco.	164,800	
Thomas Marshall, Pittsburg, Pa.	154,715	8 "
City St. Impt. Co., San Francisco.	166,000	7 "

[1]San Francisco, Cal.

PARK CITY, UTAH.—A fire in this city June 19 destroyed a number of buildings in the business portion of the city, including the American House, the Crescent concentrator and many others; reported loss, about $900,000.

WELLSVILLE, UTAH.—Bids are asked until July 7 for erecting a school building at this place. Chn., G. Brugger.

MONTREAL, QUE.—Bids are asked until July 9 for sundry artificers' works, required in the erection of a fire station, at Notre Dame and Beaudry Sts., St. James ward. L. O. David, Cy. Clk.; J. B. Resther & Fils, Archs., Imperial Bldg., 107 St. James St.

SHERBROOKE, QUE.—Andrew Bonin and Paquet & Godbout, of St. Hyacinthe, are said to have been awarded the contract for the construction of the St. Charles Barromee seminary building, to cost $81,000. Arch., Jos. B. Verret.

NIAGARA, ONT.—The Clifton House at Niagara was destroyed by fire June 26 causing a reported loss of $100,000. Proprietor, Geo. M. Colburn.

WINNIPEG, MAN.—The following bids have been accepted for work on new school buildings: For school building on Bond St., plans by S. Hooper, Woods & Sutherland, General Contractors, $29,336; heating and ventilating apparatus, Smead Dowd Warming & Ventilating Co., $2,465. For school building on Pembina St., Woods & Sutherland, Contractors, $21,502.

BEVERLEY, ENGLAND.—Bids are asked by the East Riding County Council until July 16 for the extension of its offices in Beverley, and also for the building of a new register office. Premiums, £30 ($150), £20 and £10. Clk., John Bickersteth, County Hall, Beverley.

WATER-WORKS.

HUNTINGTON, MASS.—Bids are asked until July 9 for furnishing about 481 tons of cast-iron water pipe, specials, hydrants, etc. Engrs., E. C. & E. E. Davis, Northampton, Mass.; Chn. Com., L. F. Hardy.

NEEDHAM, MASS.—The legislature is reported to have authorized this place to issue $50,000 in bonds for extending the works. Thos. Sutton, Town Clk., informs us that the board of water commissioners consists of E. S. Pond, John M. Hodge and F. G. Tutter.

ALBANY, N. Y.—The Bleecker reservoir, it is said, is to be cleaned and improved at a cost of about $30,000. Geo. I. Bailey, Supt.

ELLIS ISLAND, N. Y. H.—The Merritt Wrecking Co., New York, has been awarded the contract for laying the new water main across the Communipaw flats under the water to supply this island. The water will be secured from the Jersey City works.

MAYVILLE, N. Y.—This place is considering the question of issuing $1,200 in bonds for extending the water mains.

MONTOUR FALLS, N. Y.—Alex. Potter, 137 Broadway, New York, has submited a report on the proposed works. Dr. Geo. M. Post, Pres.

JERSEY CITY, N. J.—The street and water board has rejected the bids received Feb. 23 for furnishing this city with a water supply. New specifications will be prepared. Geo. Bouton, Clk.

PERTH AMBOY, N. J.—The aldermen received the following bids June 20 for furnishing a 4,000,000-gallon pump for the works at Runyon: Buffalo Steam Pump Co., $16,200; Snow Steam Pump Works, $13,840; Geo. F. Blake Mfg. Co., $22,500; Laidlaw-Dunn-Gordon Co., $13,000; Barr Pumping Engine Co., $12,000.

SEASIDE PARK, N. J.—Edgar A. Alcott, Mount Holly, N. J., is reported to have been awarded the contract for furnishing and constructing the proposed works and electric light plant for the Seaside Park Light, Water & Sewer Co., 227 Market St., Camden, N. J. This company was incorporated in May, with a capital stock of $100,000. by Harry Reeves, Gloucester; Wm. J. Beadley, of Camden, and others.

MADISON, N. J.—The installation of a driven well plant, recently recommended by Louis L. Tribus, 84 Warren St., New York, for an auxiliary water supply, is being carried on under contract by the Hydraulic Construction Co., 1 Broadway, New York.

CHARLEROI, PA.—The plant of the Charleroi Water Co. has been sold to Wm. M. Bell, Pittsburg, according to reports. Two 2,500,000-gallon reservoirs, etc., will be built at once; estimated cost, $100,000.

CONSHOHOCKEN, PA.—It is stated that the American Pipe Mfg. Co., 112 North Broad St., Philadelphia, has purchased the works of the Conshohocken Gas & Water Co.

DOYLESTOWN, PA.—The council is considering the question of extending the works, according to reports.

LEBANON, PA.—Humphreys & Rowe, Ashland, Pa., have been awarded the contract for laying the 8-in. water mains and for setting 52 hydrants.

MILLHALL, PA.—The Millhall Water Co. has been incorporated with a capital stock of $5,000, of which $500 is paid in, by James Jeffries, Treas., Lock Haven, Pa.; Jas. P. Herdic, Williamsport, Pa., and others.

NANTICOKE, PA.—Wm. G. Edmunds has about completed the contract for extending the 8-in. main of the works of the Nanticoke Water Co. 28,000 ft. to Alden.

TAKOMA PARK, D. C.—S. S. Shedd, Mayor, writes us that this place voted in May against building works and a sewerage system.

SMITHFIELD, VA.—J. W. Holloway and A. Bunkley are reported as interested in the company which proposes to build the works here.

PARKERSBURG, W. VA.—Bids are asked until July 11 for constructing about 1,000 ft. of 36-in. cast-iron conduit and for extending 700 ft. the 14-in. main, as described in our advertising columns. W. J. Rittenhouse, Cy. Clk.

DURHAM, N. C.—This place will vote Aug. 1 on the question of issuing $225,000 in bonds for purchase of the works of the Durham Water Co., the plant of the Durham Electric Light Co., and for improving the streets.

FITZGERALD, GA.—Bids are asked until July 18 for furnishing the material and for constructing works and an electric light plant, as described in our advertising columns. C. C. Goodnow, Mayor.

KNOXVILLE, TENN.—Press reports state as follows: The council has taken the initiative step in the direction of buying the works of the Knoxville Water Co. According to the contract between the city and the company the works, franchises and equipment may be purchased at any time the city may choose, provided the company is given a year's notice. It is proposed to have this notice date Aug. 1, 1898, that the property may be deeded to the city in August, 1899.

BUTLER, KY.—This place is reported as considering the question of building works.

COVINGTON, KY.—Local papers state that the water will be sold after Oct. 1 by meter. Meters will be put in residences, stores, public buildings, etc. Supt., W. H. Glore.

WEST COVINGTON, KY.—It is stated that a company is being organized to apply for a franchise to supply this place with water. An election will probably be held soon to vote on the question. Population, 750. E. O. Young, Cy. Engr.

CANTON, O.—Ohlinger & Co. have been awarded the contract for constructing the plant and for sinking the well for the county infirmary at $1,052.

CHICAGO JUNCTION, O.—Bids are asked until July 14 for furnishing and installing a water tower, 50 hydrants, 20 valves, laying about four miles of mains and for constructing a masonry reservoir. Engr., Chas. F. Sturtevant; Clk., Louis Simmermacher.

MINGO, O.—The Mingo Junction Light & Water Co. has been incorporated with a capital stock of $50,000. The company was recently granted a franchise. The contract for the works and light plant has been let to John Patton, Pittsburg, Pa. Pres., E. P. Young, Sewickley, Pa.; Secy. and Treas., B. L. Hirshfield, 427 Diamond St., Pittsburg, Pa.

SYCAMORE, O.—Bids are asked until July 26 for furnishing and constructing the proposed works and light plant; estimated cost, $20,000. Consult. Engr., G. C. McKibben, Van Wert, O.; Clk., E. J. Eyestone.

EVANSVILLE, IND.—Bids are asked until July 12 for constructing the boiler and engine house and the smokestack for the new water-works. (Postponement from July 1.) Engr., Chas. Hermany, Louisville, Ky.; Chn., Fred. Grote.

WHITING, IND.—Bids are asked until July 18 for furnishing and laying 3,060 ft. of 6 to 10-in. cast-iron water pipe. Town Clk., John G. Erdlitz; Pres. Bd. Trustees, C. A. Johnson.

CASS CITY, MICH.—Geo. C. Morgan, 808 Royal Insurance Bldg., Chicago, Ill., has been engaged to prepare plans and specifications for works and a light plant; estimated cost, $18,000. Councilman C. W. Keller may be addressed.

PAW PAW, MICH.—J. W. Free, Pres., writes us that Geo. S. Pierson, Kalamazoo, Mich., has prepared plans for the proposed works and sewerage system; estimated cost, $20,000. A vote will be taken July 11. H. A. Cole is on the committee.

SAGINAW, MICH.—Bids are asked until July 1 for sinking a deep well on Millard St. Alfred Davies, Clk. Bd.

YALE, MICH.—E. F. Fead, Village Clk., writes us that plans and specifications for the proposed works and light plant will be ready for bidders July 1. Estimated cost, $20,000. Population, 1,200. Jas. McCall, Pres.

KIRKSVILLE, ILL.—J. E. Adams, Quincy, Ill., is reported as interested in the proposed works for the city; estimated cost, $75,000.

LEBANON, ILL.—The mayor is reported as considering a proposition from a company to furnish this place with works for $4,500.

PEORIA, ILL.—The question of building works in South Park is being considered by the park commissioners.

BALDWIN, IA.—Chas. P. Chase, Clinton, Ia., is reported as preparing plans for works for this place to cost $5,000.

OLIN, IA.—This place has voted to build works, according to reports. S. W. Flaherty may be addressed.

WEST CONCORD, MINN.—This place voted June 21 against building works. F. T. Clifford, Mayor.

CEDAR VALE, KAN.—J. P. Tabler, Mayor, writes us that this place voted June 21 on the question of issuing $5,000 in bonds for the proposed works; population, 1,000.

BEATRICE, NEB.—Bids are asked until July 23 for constructing works for the Institution for the Feeble Minded. J. V. Wolfe, Chn. Bd. Pub. Lands and Bldgs.

STANTON, NEB.—The question of extending the works is being considered, according to reports. H. F. Stephens may give information.

GREAT FALLS, MONT.—At the council meeting held June 14 it was determined to reject the offer of the Great Falls Water-Works Co. for the purchase of its plant. The action of the council in determining to ask authority for the issuance of $260,000 in bonds for the purpose of constructing an independent water plant contemplates, not the plant alone, but in addition the construction of a filtering system and stand-pipe.

ST. LOUIS, MO.—Bids are asked until July 15 for furnishing 3,350 tons of 6, 12, 20 and 48-in. cast-iron water pipe, 200 tons c. i. coated special castings, 265 6, 10, 12 and 20-in. stop valves, 200 underground fire plugs, 50 single-nozzle and 25 double-nozzle post fire plugs, etc., and also for laying 15,000 ft. of 20-in., 29,500 ft. of 12-in. and 32,000 ft. of 6-in. cast-iron water pipe, setting 215 fire plugs, etc. Robt. E. McMath, Pres. Bd. Pub. Improvements.

PARAGOULD, ARK.—C. A. Rees, Fayetteville, Ark., is reported to have been awarded the contract for building the proposed works at $28,000. Engrs., Porter & Sanders, Columbia Bldg., Louisville, Ky.

AUSTIN, TEX.—Bids are asked by H. C. Patterson, Supt. Water-Works, for furnishing an outside packed plunger pump of 4,000,000 gallons capacity and motor for same.

BRYAN, TEX.—It is reported that the city is considering the question of purchasing the works and light plant of the Bryan Water, Ice, Light & Power Co. The plants were built in 1890 at a cost of about $30,000. H. G. Rhodes, Cy. Secy.

BRECKENRIDGE, COLO.—An election will be held July 25 to vote on the question of building works, described in our issue of June 9. Consult. Engr., Fred. C. Cramer, Breckenridge.

SEATTLE, WASH.—Bids are asked until July 1 for constructing the foundation and casings for the Cedar River stand-pipe, bids for which will be received until June 30. The foundation will require 540 cu. yds. of concrete, 600 lin. ft. of concrete arches, belt courses, etc., 13,400 lbs. of twisted steel rods, etc. Frank Oleson, Secy.

LOS ANGELES, CAL.—The council has offered the Los Angeles City Water Co. $1,300,000 for improvements made by the company during its 30 years' lease of the property. This is $1,700,000 less than the company asks, and $110,000 more than the engineer estimates its value. A later report states that the company has refused this offer, but suggests that a board of arbitration be appointed.

SEBASTOPOL, CAL.—The question of furnishing this place with water is being considered, according to reports.

SONOMA, CAL.—The Sonoma City Water Co. has been incorporated with a capital stock of $25,000, according to reports.

UKIAH, CAL.—Bids are asked until July 6 for constructing a dam on Mill Creek, about 1½ miles east of the hospital, for the proposed supply for the state hospital. Archs., Cunningham Bros., Spreckels Bldg., San Francisco; Chn., J. C. Ruddock, Ukiah.

YOUNTVILLE, CAL.—J. K. Prior has been granted a franchise to furnish this place with water.

SHAWVILLE, QUE.—It is stated that this company is being organized to supply this place with water and electric lights.

CALLAO, PERU.—Press reports state that the municipality of Callao has decided to construct water and drainage works at an estimated cost of $300,000. Manufacturers of machinery and appliances for such work able to compete with those of Europe will have an opportunity to furnish estimates for all of the material required at an early date. Population (1890), 36,000.

IRRIGATION.

OAKDALE, CAL.—Reports state that Reuben Morgan, Hanford, is about to let a contract for the construction of a ditch from Oakdale to Merced; estimated cost, $30,000.

SAN DIEGO, CAL.—It is reported that a project to complete the Pamo dam and water-works, to irrigate the Linda Vista district, including an area of 40,000 acres, at an estimated cost of $800,000, is being considered by George F. Coates, E. A. Meserve, of Los Angeles; B. T. Spencer, A. P. McNally, E. P. Gray and Charles R. Edgar.

NEW COMPANIES.—Farmers' Ditch Irrigation Co., Santa Paula, Cal.; $35,000; to construct and maintain irrigation works; Clarise H. Harrold, J. B. Harris, Monrovia; W. H. Ramsey, Robert Darling, D. A. Webster.

SEWERAGE.

BREWER, ME.—Bids were asked until June 27 for constructing sewers to cost $10,000. C. C. Worth, Chn. Com., writes us that bids for the work were confined to residents of the county. Engr., P. H. Coombs, 11 Exchange Block, Bangor, Me.

NASHUA, N. H.—A. W. Dean, Cy. Engr., writes us that plans are being prepared for a system for the Crown Hill section. No construction will be done this year. Mayor, J. E. Tolles, Chn. Com.

ANDOVER, MASS.—The following bids were received by J. E. Smith, Chn. Com., June 21, for constructing 15 to 8-in. pipe sewers in several streets: R. D. Maynard, $23,087; F. H. Bryne, $24,455; C. E. Trumbull, $24,744; C. H. Eglee & Co., $25,572; George M. Atkins, $29,306; A. W. Bryne, $29,586; H. A. Hanscome, $30,607; John Walker, $31,291; McCusker Bros., $33,615; Lucean Taylor, $33,722; E. W. Everson, $37,505; E. R. Cheney, $40,385; J. Chambers, $45,926. It is said that the contract will probably be let to C. H. Eglee & Co., now building water-works at North Andover.

BOSTON, MASS.—Bids are asked until July 1 for constructing 1,198 ft. of sewer in Ipswich St. B. W. Wells, Supt. Sts.

CLINTON, MASS.—It is stated that the legislature has passed the bill authorizing this city to build a system and a sewage disposal plant. It is probable that work will be begun soon.

PITTSFIELD, MASS.—The board of public works has recommended an appropriation of $10,000 for lateral sewers in Morningside.

SPENCER, MASS.—This place has voted to construct sewers in East Main and Cherry Sts., at a cost of $6,500. Dr. C. P. Barton may be addressed.

BUFFALO, N. Y.—Bids are asked until July 7 for constructing 12 and 10-in. pipe sewers in several streets. R. G. Parsons, Secy. Bd. Pub. Wks.

FISHKILL, N. Y.—The question of constructing sewers in certain streets is being considered. D. S. Merritt, Engr., Tarrytown, N. Y., has submitted a report to the town trustees.

IRVINGTON, N. J.—The officials of Irvington and South Orange are reported as considering the question of building a joint sewer. Trustee Sinclair, of South Orange, and Councilman Hageman, Irvington, may be addressed.

NEWARK, N. J.—Plans are being considered by the board of works for sewers for the west side, to cost between $103,000 and $325,000. Ernest Adam, Cy. Surv.

GREENSBURG, PA.—Bids are asked until June 30 for extending the Coal Run Tar main sewer. F. V. B. Laird, Pres. Council, and City Clerk Suydam may be addressed. ——It is also proposed to extend a sewer in Ward No. 2 about 4,000 ft., at a cost of $1,800. Other sewer extensions are also proposed. City Engineer Long may be addressed.

TACOMA PARK, D. C.—S. S. Shedd, Mayor, writes us that a vote of the citizens on the question of issuing bonds for a system, etc., was taken in May, but the question was lost.

PARKERSBURG, W. VA.—Bids are asked until July 11 for constructing about 8,000 ft. of 8-in. and 3,000 ft. of 15-in. pipe sewer, 3,000 ft. of brick sewer, etc., as described in our advertising columns. W. J. Rittenhouse, Cy. Clk.

SAVANNAH, GA.—Bids are asked until Sept. 1 for constructing the proposed house drainage system, as stated in our advertising columns. (Postponement from July 5.) W. W. Owens, Chn. Com.; P. W. Meldrim, Mayor.

COLUMBUS, MISS.—H. M. Lanier, Cy. Marshal, writes us that no election to vote on the question of a system, etc., will be held for some time.

ATHENS, TENN.—It is reported that a system will be constructed.

CLEVELAND, O.—Whann & Schlessinger, New York, purchased $240,000 worth of 3% intercepting sewer bonds June 27 for $270,086.

ELYRIA, O.—Bids are asked until July 5 for furnishing the material and for constructing sewers in West and West River Sts. W. H. Park, Clk.

GREENVILLE, O.—A. C. Robeson writes us that this place voted June 20 against issuing $58,000 in bonds for sewers.

MASSILLON, O.—We are informed that the contract for constructing 10 to 6-in. pipe sewers and a sewage filtration bed for the state hospital was let to Myers & Co., Mansfield, O. The reservoir is completed and the sewers are well along; estimated cost, $10,000. Engrs., Snow & Barbour, Boston, Mass.; Res. Engr., E. G. Bradbury; Supt., Dr. A. B. Richardson.

AURORA, IND.—Bids are asked until July 2 for constructing sewers in certain streets. Jno. J. Backman, Cy. Clk.

COLUMBIA CITY, IND.—E. K. Strong, Cy. Engr., writes us that the contract for building the proposed system was let to E. Wood & Co. Des. Engr., E. C. Phillips; Chn. Com., Geo. Bichloldt.

OWOSSO, MICH.—Bids are asked until July 6 for constructing about 5,200 ft. of 30, 24 and 12 to 8-in. pipe sewers, as stated in our advertising columns. Engr., H. E. Riggs, Toledo, O.; Cy. Clk., J. L. Ash.

CHICAGO, ILL.—Bids are asked until July 5 for constructing sewers in certain streets. L. E. McGann, Pres. Bd. Local Improvements; J. S. Sheahan, Secy.

PONTIAC, ILL.—D. S. Myers, Mayor, informs us that the following lowest bids were received June 13 for constructing sewers, as advertised in Engineering News: D. Delaney & Co., Joliet, Ill., Oak St., $478; Mill St., $480; Main St., $568; Chicago Ave., $200. The other bidders were: Alexander & Shaw, 907 Chamber of Commerce Bldg., Chicago; Wm. Davidson, 1616 Wabash Ave., Mattoon, Ill.; Grassall Bros., Pontiac; A. Lorinsfoss and Jesse Brown, Pontiac; N. E. Stucker, Ottawa, Ill.; Neal Morgan, Pontiac.

TAYLORVILLE, ILL.—It is reported that bids will be received in about 30 days for constructing 22,000 ft. of 15 to 8-in. pipe sewers. Jas. Bourne, Chn. Com.

LE SUEUR, MINN.—Bids are asked until July 8 for furnishing the material and for constructing sewers. Engrs., M. B. & A. M. Haynes, Mankato, Minn.; Mayor, L. Quackenbush.

NEW ULM, MINN.—Bids are asked until July 5 for constructing five blocks of 24 and 18-in. pipe sewers. Louis Schilling, Cy. Clk.

DAVENPORT, IA.—Bids will probably be asked until July 20 for constructing about 9,000 ft. of 18 to 10-in. pipe sewers; average cut, 10 ft. We are informed that C. J. Schutter, M. J. Gorman and W. Bischoff are on the committee. Thos Murray, Cy. Engr.

DES MOINES, IA.—Bids are asked until July 9 for constructing 1,100 ft. of 24-in. pipe sewer. G. A. Eberhart, Chn. Bd. Pub. Wks.

MUSCATINE, IA.—Bids are asked until July 5 for constructing 618 ft. of 38 × 24-in. two-ring brick sewer, average cut, 10½ ft.; 1,012 ft. of 42 × 28-in. brick sewer, average cut, 12 ft.; 360 ft. 10-in. pipe storm water connections, 1,401 ft. of 6-in. sewer branches, 6 manholes, 10 receiving basins, etc. The bids received June 16 for this work were rejected. J. J. Ryan, Cy. Engr.

OTTUMWA, IA.—Bids are asked until July 5 for extending Blake's branch sewer. T. F. Keefe, Chn. Com.

RAWLINS, WYO.—James L. Cowan, Saratoga, Wyo., is preparing plans and specifications for a system for Rawlins. It is probable that it will be some time before the matter will be acted upon definitely. It is not likely that work will be begun this year.

BILLINGS, MONT.—It is reported that the council has decided to build a system.

JOPLIN, MO.—The question of building sewers in several streets, at a cost of $16,000, is being considered. Councilmen Walter Scott and Swinford may be addressed.

SHERMAN, TEX.—It is reported that the Pennsylvania Sanitation Co., Betz Bldg., Philadelphia, is considering the question of building a system to cost about $20,000. Thos Randolph, Sherman, may be addressed.

GALVESTON, TEX.—The Pennsylvania Sanitation Co., Betz Bldg., Philadelphia, Pa., it is said, will submit a proposition to the council for putting in a system either by contract or by franchise.

VICTOR, COLO.—The council has directed the city clerk to correspond with Andrew Rosewater, Bee Bldg., Omaha, Neb., in regard to preparing plans for a system for this place, according to reports. Alderman Grome, Chn. Com.

VALONA, CAL.—The people are contemplating forming a sanitary district under the Sanitary District act of California. The election has not yet been called, so nothing is yet definite. C. L. Huggins, Town Engr. of Berkeley, Cal., has made preliminary surveys, plans and estimates for a system for the proposed district, which will be about as follows: Main sewers, $6,500; branch sewers, $4,000; about 4.3 miles of 10 to 6-in. pipe sewers, manholes, lamp-holes, branches, etc., $2,100; incidentals, $1,260; total cost, $13,860. Separate system, pipe sewers, outlet San Francisco Bay direct. Topography, mountainous.

MONTREAL, QUE.—The road committee is considering the question of sewering St. Dennis ward at a cost of from $80,000 for sewage disposal plant or pumping station to $300,000 for the De Levis sewer through St. Mary's and De Lorimer and St. Louis Sts.

HAMILTON, ONT.—It is proposed to spend $50,000 for building four new sewers. E. G. Barrows, Cy. Engr.

CALLAO, PERU.—It is stated that bids will soon be wanted by this city for constructing drainage works and water-works to cost about $300,000.

NEWCASTLE, NEW SOUTH WALES.—The question of building a system for this city and suburbs is being considered. Population (1890), 20,000.

GARBAGE DISPOSAL—STREET CLEANING.

WHITE PLAINS, N. Y.—Bids are asked until July 11 for removing and disposing of the garbage for one year. S. C. Miller, Pres. Bd. Trustees; Wm. B. Sutherland, Clk.

CAMDEN, N. J.—The council has awarded a contract to B. F. Sweeten & Son at $13,800 for cleaning the streets, gathering ashes, garbage, etc.

SAN DIEGO, CAL.—Wm. Gilcher has been awarded a contract by the board of public works, at $75 a month, for disposing of the city garbage.

STREETS AND ROADS.

LACONIA, N. H.—Bids are asked until July 18 for building the Weirs Road, as described in our advertising columns. Wm. Nelson, Cy. Engr.

BOURNE, MASS.—The town has voted to borrow $15,000 to complete the road from Monument Beach to Falmouth.

EAST HARTFORD, CONN.—Bids are asked until July 8 for macadamizing Hartford Ave. a distance of 1,600 ft., and constructing 3,000 lin. ft. of curb, etc. Edwin D. Graves, Engr. Connecticut Highway Comn., Aetna Life Bldg., Hartford.

WINCHESTER, CONN.—Bids are asked until July 2 for macadamizing North Main St. Riley W. Smith, First Selectman.

WINDSOR LOCKS, CONN.—Bids are asked until July 8 for macadamizing one road. John E. Mooney, First Selectman.

WOODSTOCK, CONN.—Bids are asked until July 9 for grading and graveling. F. L. Corbin, First Selectman.

ALBANY, N. Y.—The following contracts were awarded by the board of contract and apportionment, June 20, for paving: Mulderry Bros., in First St., at $24,988; Edward F. Dillon, in Van Woert St., at $8,523; T. H. Dumary, in Green St., at $36,834.

BUFFALO, N. Y.—Bids are asked until July 7 for furnishing the material and constructing pavements in Kentucky St., Morgan St. and Lafayette Ave. R. G. Parsons, Secy. Bd. Pub. Wks.——The Hamburg plank road will be improved this summer, at a cost of $2,000 to $5,000 a mile. Wm. H. Ryan, Chn. Bd. Supervisors.

JAMESTOWN, N. Y.—The Jamestown Construction Co. submitted the lowest bid for paving East Second St., at $70,004. Clement B. Jones, Cy. Clk.

NEWBURGH, N. Y.—Bids are asked until July 1 for paving Liberty St., from Broadway to Renwick St., with granite or asphalt. Chas. Caldwell, Cy. Surveyor; D. J. Coutant, Clk.

RENSSELAER, N. Y.—Bids are asked until July 19 for furnishing the materials and excavating, granite paving, etc., in Broadway. C. A. Ryan, Cy. Clk.

ROCHESTER, N. Y.—Bids are asked until July 8 for the following estimated work; Edwin A. Fisher, Cy. Engr.; Chas. M. Beattie, Clk.: Parsells Ave., asphalt pavement, $31,000; Berlin St., sewer and grading, $2,750; Villa Place, grading, $350; Frost Ave., cement walks, $3,150; Spencer St., brick pavement, $12,000.

TROY, N. Y.—Bids are asked until July 1 for brick paving in one alley. E. Ogden Ross, Secy. Contracting Bd.

HOBOKEN, N. J.—Bids are asked until July 13 for improving Sixth St., between Grand and Adams Sts. M. V. McDermott, Cy. Clk.

LINDEN, N. J.—Reports state that a proposition to issue $15,000 for the construction of sidewalks has been defeated by a majority of one vote.

BRADFORD, PA.—Several streets are to be paved with brick.

CHESTER, PA.—Robt. E. Ross, Councilman, informs us that 3,000 sq. yds. of sheet asphalt pavement will be constructed in Market St. Chas. Ladomas, Des. Engr.

EASTON, PA.—Bids are asked until July 8 for constructing 6¼ miles of macadam road, as stated in our advertising columns. H. F. Trumbore, Clk. County Comrs.

JOHNSTOWN, PA.—Bids are asked until June 30 for brick paving; estimated cost, $17,000. E. L. Goldstein, Cy. Engr.; W. S. Caples, Councilman.

PITTSBURG, PA.—Bids are asked until July 5 for grading, paving and curbing. R. M. M'Fadden, Secy. Council.

RIDGWAY, PA.—An election will be held July 16 to vote on a proposition to issue $10,000 in bonds for paving. The council has passed an ordinance to pave and curb in Main St. Frank C. Ely, Pres. Council.

SCOTTDALE, PA.—Bids are asked until July 18 for the grading and paving of Bridge and Short Sts., as described in our advertising columns. E. L. Rutherford, Borough Secy.

ATLANTA, GA.—The street committee has recommended a proposition to the council for paving Washington St. with asphalt. Chairman Mitchell may be addressed.

NEW ORLEANS, LA.—Bids are asked until July 5 for paving Rampart St., from Kelerec St. to Esplanade St., with asphalt. P. Alph Rabouin, Controller.

CALIFORNIA, O.—Bids are asked until July 22 for grading, excavation and road construction, at the Cincinnati Water-Works, near this place; estimated cost, $100,000. G. Bouscaren, Engr.; Chas. G. Roth, Clk. Bd. Water-Wks. Trustees, Cincinnati.

CADIZ, O.—Bids are asked by the county auditor until July 9 for the purchase of $9,000 of 6% turnpike bonds.

LIMA, O.—R. H. Gamble, Cy. Engr., writes us that E. J. Barr, Lima, has been awarded a contract for the South Main St. paving on Metropolitan special 5-in. block and Barrett coal tar pitch filler, 10% asphalt. The itemized bids were given in our issue of last week.

TOLEDO, O.—Bids are asked until July 5 for the purchase of $30,500 of 4½% road improvement bonds. Wm. M. Godfrey, County Audr.——The council has awarded a contract to Garrigan Bros., at $35,000, for the paving of Woodville St. with granite blocks.

TOLEDO, O.—Bids are asked until July 11 for furnishing the material and grading and macadamizing in Bancroft St. L. P. Harris, Cy. Clk.

ANDERSON, IND.—The council has decided to pave portions of 11 streets. H. H. Rogers, Cy. Engr.

COLUMBUS, IND.—Bids are asked until July 1 for constructing 19 miles of gravel road in Wayne township. H. C. Harris, Chn. County Comrs.

FORT WAYNE, IND.—Bids are asked until July 7 for 16,000 sq. yds. of asphalt paving. A. Schmidth, Clk. Bd.

LAFAYETTE, IND.—Bids are asked until July 11 for repairing sidewalks in two streets and improving four other streets. Thos. W. Burt, Cy. Clk.

INDIANAPOLIS, IND.—Bids are asked until July 6 for the repair of brick pavements during 1898. M. A. Downing, Chn. Bd. Pub. Wks.

ROCKVILLE, IND.—Bids are asked until July 8 for constructing 18 miles of gravel road. E. H. Owen, County Audr.

MISHAWAKA, IND.—Bids are asked until July 11 for constructing brick pavement and cement sidewalk in Bridge St., according to reports. Geo. A. Tremel, Town Clk.

SHOALS, IND.—Bids are asked until July 6 for macadamizing or graveling eight sections of roads. Horatio Harryman, County Audr.

UNION CITY, IND.—Bids are asked until July 18 for the improvement of a portion of Walnut and Carter Sts. S. R. Bell, Cy. Engr.

LANSING, MICH.—The council has awarded a contract to Woodcock & Kneal, Lansing, at $29,000, for about one mile of paving.

SAGINAW, MICH.—A contract has been awarded to Lynch, Ryan & Lynch, Flint, Mich., at $25,000, for paving several streets with brick.

SAULT STE. MARIE, MICH.—The county commissioners are contemplating the purchase of a stone crusher. County Clerk Snell may be addressed.

CHAMPAIGN, ILL.—Bids are asked until July 14 for 26,000 sq. yds. of paving. Ralph P. Brower, Cy. Engr.

DE KALB, ILL.—The following bids were received June 21 for brick paving and curbing, as advertised in Engineering News. E. A. Porter, Cy. Clk.:

Crews, Long & Allison, Arcola, Ill.	$11,504
A. E. Rutledge & Co., Rockford, Ill.	10,650
Jas. Bairston & Co., Chicago	11,555
C. M. Netterstrom, Chicago	10,976
W. D. Boyce & Co., St. Louis, Mo.	11,607
Smith, Mass & Brown, Chicago	11,503

MILWAUKEE, WIS.—E. M. Schuenzel, Cy. Clk. informs us that a resolution to pave Newberry Boulevard is now before the council, and that bids will probably be asked about Aug. 15.

MUSCATINE, IA.—Bids are asked until July 5 for 16,465 sq. yds. of brick paving, curbing, grading, etc. J. J. Ryan, Cy. Engr.

OTTUMWA, IA.—Bids are asked until July 5 for brick paving, etc., in certain streets. T. F. Keefe, Chn.

NEW ULM, MINN.—Bids are asked until July 5 for grading, graveling, etc., according to reports. Louis Schilling, Cy. Clk.

KANSAS CITY, MO.—Bids are asked until July 5 for brick paving and curbing in Seventh St., from Quindaro Boulevard to Rowland Ave. Geo. E. Yeager, Cy. Clk.—— Bids are asked until July 7 for two miles of macadamizing and grading. Thos. F. Callahan, County Surveyor.

SPRINGFIELD, MO.—The council has passed a resolution to macadamize in Cherry and Campbell Sts. W. A. Hall, Mayor; G. W. Hackney, Cy. Clk.

ST. LOUIS, MO.—The following are the lowest bids submitted to the board of public improvements June 21:

Furnishing and delivering macadam: District A—G. Eyermann, Jr., $3,230; District B—Krug & Zesch, $3,050; District C—St. Louis Stone Masons' Quarry & Building Association, $2,980; District D—St. Louis Stone Masons' Quarry & Building Association, $14,250; District E—Bambrick-Bates Construction Co., $5,780; District F—Bambrick-Bates Construction Co., $17,040; District G—Stifel & Ruckert, $11,360; District H—J. E. Perkinson, $23,000.

Hauling macadam: District A—Krug & Zesch, $2,000; District B—G. Eyermann, Jr., $11,700; District C—Wade Bros. Construction Co., $3,250; District D—Wade Bros. Construction Co., $19,000; District E—Wade Bros. Construction Co., $7,000; District F—Wade Bros. Construction Co., $19,500; Dist. H—J. E. Perkinson, $36,000.

Furnishing and delivering screened gravel: District A—F. B. Berglar, $1,257; District B—F. B. Berglar, $7,960; District C—F. B. Berglar, $1,970; District D—F. B. Berglar, $7,180; District E—F. B. Berglar, $3,940; District F—F. B. Berglar, $8,160; District G—F. B. Berglar, $7,500; District H—F. B. Berglar, $8,280.

Constructing and reconstructing sidewalks with granitoid: District No. 1—Heman Construction Co., $16,786; District No. 2—Heman Construction Co., $23,980.

Repairing gutters, curbs and crosswalks with limestone and repairing alley entrances with brick or granitoid: District No. 1—John A. Lohrum, $7,180; District No. 2—G. Eyermann, Jr., $8,040; District No. 3—Bambrick-Bates Construction Co., $8,162.50; District No. 4—Stifel & Ruckert, $8,080.

JAMESTOWN, N. DAK.—Bids are asked until July 5 for furnishing road supplies, according to reports. John F. Vennum, County Audr.

SPOKANE, WASH.—Bids are asked until July 10 for constructing about 30,000 sq. yds. of asphalt pavement and 7,000 lin. ft. of granite curb. B. H. Fowle, Secy.

PETERBOROUGH, ONT.—Bids are asked until July 4 for about 5,000 lin. ft. of granolithic or cement sidewalk. S. Belcher, Town Engr.; S. R. Armstrong, Clk.

TORONTO, ONT.—Bids are asked until July 6 for constructing the following kind of pavement: Asphalt, brick, macadam, tamarac, concrete and granite. John Shaw, Mayor.

WALKERTON, ONT.—Bids are asked until July 2 for constructing granolithic sidewalks in Durham St. and other streets. R. H. McKay, Chn. Com.; W. S. Gould, Town Clk.

MANUFACTURING PLANTS.

WORCESTER, MASS.—Plans are being prepared, according to reports, for a new 3-story shop building, 350 × 50 ft., to be erected for Prentice Pros., manufacturers of tools and iron-working machinery. Archs., Earle & Fisher, of Worcester.

BROOKLYN, N. Y.—Robinson & Wallace, 123 East 23d St., New York, have been awarded the general contract for erecting a 4-story brick factory building at De Kalb and Lewis Aves., for the New York Condensed Milk Co., 91 Hudson St., New York. Arch., G. Howard Chamberlin, 1181 Broadway, New York

BUFFALO, N. Y.—Plans have been prepared for the Larkin Soap Co., Seneca and Heacock Sts., for an 8-story brick and stone factory building to cost about $75,000. Arch., Robert Reidpath, Real Estate Exchange Bldg.

YONKERS, N. Y.—Reports state that a new brewing plant will be erected in this city at a cost of about $40,000. Archs., Grewey & Cowles and J. Kastner & Sons, 1123 Broadway, New York.

PHILADELPHIA, PA.—A fire in this city June 24 destroyed the works of Thomas Potter's Sons & Co., manufacturers of oil cloth and linoleum, at Second and Venango Sts.; estimated loss, $225,000.

LOUISVILLE, KY.—The iron foundry of Smead & Co., at Market, May, 8th and 9th Sts., was burned on June 23, causing a loss of about $250,000.

DETROIT, MICH.—A fire in this city June 23 destroyed the building at 47 Jefferson Ave., occupied by the Roe Stephens Mfg. Co. as an office and a buffing foundry. The total loss is estimated at $40,000.

CHICAGO, ILL.—The 4-story brick building occupied by the Jacques Mfg. Co. was damaged by fire June 24; reported loss, $75,000.

PEORIA, ILL.—The Great Western Distillery Co.'s plant at this place was struck by lightning and burned June 25, causing an estimated loss of $300,000; fully insured. Later reports state that it has been decided to rebuild the distillery, making it as large as any two in the world, with a daily capacity of 95,000 gallons, to cost about $500,000.

SUPERIOR, WIS.—The Webster Mfg. Co., of Superior, informs us that contracts have all been let for new buildings to replace those burned on June 4.

KANSAS CITY, MO.—It is announced that the Parlin & Orendorff Co., of Canton, Ill., has decided to establish a branch in this city for the manufacture of agricultural implements. It is proposed to enlarge the building at 1321 to 1327 West 13th St., formerly occupied by the Keystone Mfg. Co., and to erect a 6-story addition; estimated cost, $75,000.

ST. JOSEPH, MO.—We are informed that bids will be received July 8 for the erection of a 5-story brick factory building for the National Biscuit Mfg. Co., to cost about $50,000. Bids will not be received at present for the necessary machinery that will be required in the equipment. Arch., E. J. Eckel, Commercial Bldg., St. Joseph.

GUTHRIE, OKLA.—It is reported that the Guthrie Club has signed a contract with St. Louis and Purcell capitalists for the location at Guthrie of a cotton compress plant to cost $35,000, and a cotton seeder mill to cost $40,000.

NEW WHATCOM, WASH.—The mill of the Bellingham Bay Improvement Co. was burned June 27, causing a reported loss of $400,000. The mill employed 140 men.

GAS PLANTS.

BINGHAMTON, N. Y.—Bids are asked until July 19 for furnishing and hanging combination gas and electric lighting fixtures, as stated in our advertising columns. Burr W. Mosher, Cy. Clk.

CAMDEN, N. J.—The Camden Gas Light Co. has been awarded a contract for lighting this city.

CLEVELAND, O.—Bids are asked until July 6 for furnishing and maintaining gasoline or vapor lights, for one year. C. W. Pratt, Jr., Ch. Engr. Bd. Park Comrs., 185 Euclid Ave.

SEATTLE, WASH.—The Seattle Gas & Electric Co. has let a contract for the construction of a new gas holder, to have a capacity of 800,000 cu. ft. The steel required will weigh about 1,000,000 lbs. C. R. Collins, Gen. Mgr.

NEW COMPANIES.—Safety Gas Generator Co., 33 Somerset St., North Plainfield, N. J.; $75,000, with $1,500 paid in; to manufacture gas for light, heat and power; F. S. Punyon, Jay F. MacDonald, Eugene M. Laing, Plainfield.

Chace Carbide & Gas Generator Co., Portland, Me.; to manufacture and deal in gas generators; $500,000, with $50 paid in; Pres., Louis C. Stanton; Treas., E. B. Hitchcock, Newton, Mass.

Southern Oil & Manufacturing Co., Jamestown, Tenn.; $50,000; to developing oil and gas wells ond for the manufacture of lumber; S. H. Pile, James Cusack, L. T. Smith, C. A. Sussner, George R. Wright.

Union Gas & Electric Co., Waterville, Me.; Chas. F. Johnson, Pres.; Nathaniel Meader, Treas.; Frank Chase, Mgr., Waterville.

Midland Oil Co., Corsicana, Tex.; $20,000; to prospect for oil, gas, etc.; W. H. McCord, Guy McClung, J. B. Whitefield, C. C. Bennett and others, Terrell, Tex.

MISCELLANEOUS CONTRACTS.

TUNNEL WORK.—Los Angeles, Cal.—Reports state that the question of issuing $160,000 in bonds for tunnel work will be submitted to a vote on July 5.

BOILER.—Santa Ana, Cal.—Bids are asked until July 5 for furnishing one horizontal tubular boiler, 6 ft. in diameter by 16 ft. long. Ed. Tedford, Cy. Clk.

PIER.—Philadelphia, Pa.—The Philadelphia & Reading Ry. Co. proposes to construct a new steamship pier near Callowhill St., to be 600 ft. long by 150 ft. wide.

STONE COPING.—Smith's Landing, N. J.—Bids are asked until July 7 for constructing brownstone coping at the county asylum, Smith's Landing. Joseph H. Borton, Chn. Com.

TELEPHONES.—Buffalo, N. Y.—Bids are asked by the police commissioners until July 6 for telephones and underground cables for the use of the department. Clk., Chas. O. Hertle.

REMOVING WRECK.—Philadelphia, Pa.—Bids are asked until July 18 for removing the wreck of the schooner "Anna Maria" from the Maurice River. Lieut.-Col. C. W. Raymond, U. S. Engr., 1428 Arch St., Philadelphia.

DREDGING.—Jersey City, N. J.—Bids are asked until July 6 for the dredging of Hudson River at the foot of Morgan St., requiring the excavation of about 20,000 cu. yds. of earth. Geo. T. Bouton, Clk. Bd. of St. and Water Comrs.

EARTH WORK.—Sacramento, Cal.—Bids are asked by the Chamber of Commerce, Sacramento, until July 5, for constructing about 15,000 cu. yds. of earth work on the Sacramento River, according to reports. Address D. A. Lindley.

MASONRY WORK.—Louisville, Ky.—Bids are asked until July 28 for constructing the masonry lock walls and abutment for dam of lock No. 8, Kentucky River, as stated in our advertising columns. Capt. J. G. Warren, U. S. Engr., Louisville.

TELEPHONE FRANCHISE.—Lexington, Ky.—Bids are asked until July 7 for the purchase of a 20-year franchise to construct and operate a telephone system and exchange. J. B. Simrall, Mayor; Evans D. Veach, Pres. Council; P. J. Garland, Cy. Clk.

LEVEE WORK.—West Memphis, Ark.—Bids are asked until Aug. 3 for constructing 24 miles of levee, containing about 2,193,000 cu. yds. of material, as stated in our advertising columns. John B. Driver, Pres. St. Francis Levee Bd., West Memphis.

CEMENT, TIMBER, ETC.—Willetts Point, N. Y.—Bids are asked until July 5 for furnishing 11,000 bbls. of cement, 8,000 cu. yds. of broken stone and 4,000 cu. yds. of sand; also, until July 25, for 45,000 ft. of spruce timber. Maj. Henry Adams, U. S. Engr.

CHANNEL WORK.—Barnstable, Mass.—Bids are asked until July 7 for building two oak pile jetties and excavating a channel through Dead Neck Beach, as described in our advertising columns. Woodward Emery, Chn. Harbor and Land Comrs., Boston.

UNDERGROUND CROSSING.—Kingston, N. Y.—Bids are asked until July 9 for furnishing the materials and for constructing an underground crossing for the Colonial City Traction Co., as described in our advertising columns. C. Gordon Reel, Engr. and Supt.

TELEPHONE EXTENSIONS.—Cleveland, O.—The Cleveland Telephone Co. has decided to expend $300,000 for the general extension of its plant, and has under consideration the establishment of two new exchanges. Charles J. Glidden, Pres.; Geo. B. Perham, Secy.

TELEPHONE COMPANY.—Chambersburg, Pa.—The Franklin County Telephone Co. has been organized, with a capital stock of $40,000, to operate in Franklin county. D. K. Appenzellar, Pres.; H. B. McNulty, Secy.; Dr. David McLay, Treas.; T. M. Mahon, Chn. Advisory Bd.

CRIB BULKHEAD.—New York, N. Y.—Bids are asked by the department of docks and ferries, Pier A, North River, until July 11, for preparing for and building a crib bulkhead between West 135th and 137th Sts., North River. It is estimated that 415,558 cu. ft. of cribwork, including fenders and backing-logs, will be required.

TELEPHONE COMPANY.—Evansville, Ind.—The Evansville Telephone Co. has been incorporated. W. L. Holmes, Pres.; Walter M. Schmitt, First Vice-Pres.; S. P. Gillett, Treas.; W. E. Moss, Secy. Capital stock, $150,000. The company has applied to the council for a franchise, and will commence operations as soon as 1,200 subscribers are obtained.

CONTRACT PRICES.

VIADUCT SUBSTRUCTURE.—Buffalo, N. Y.—Edward B. Guthrie, Ch. Engr. Grade Crossing Commissioners, 436 Ellicott Square, informs us that the following bids were received June 14 for the substructural work of the Seneca-Hamburg St. viaduct of the grade crossing improvement; the contract for the superstructure was recently let to the Edge Moor Bridge Co., Wilmington, Del., at $217,000; bid of Christopher Smith was informal:

ASPHALT PAVING.—Louisville, Ky.—The following bids were submitted June 7 by the Barber Asphalt Paving Co., New York, for asphalt paving, the price being for a square of 100 ft.: First quality asphalt, $17.88, $17.08, $17.70, $17.69, $17.68 and $17.19; for second quality, $15.88, $15.08, $15.70, $15.69, $15.68 and $15.19, on the respective pieces of work. The bids of the Alcatraz Co., San Francisco, Cal., for first quality asphalt, ranged from $18 to $19 a square. The work will amount to about $20,000.

BRICK PAVING.—Freeport, Pa.—We are informed that Sweeney & Houston, 322d St. and Pennsylvania R. R., Pittsburg, Pa., were awarded the following contract June 6 for brick paving, as advertised in Engineering News: Grading, 20 cts. a cu. yd.; paving, Mack brick, 92 cts. a sq. yd.; Park brick, 92 cts.; Kountz brick, 82 cts.; 20-in. pipe sewer, 43 cts. a ft.; 15-in., 40 cts.; curbing, 38 cts.

MACADAM ROAD.—Plainfield, Conn.—Wm. H. Kenyon, First Selectman, Moosup, Conn., informs us that the following bids were received June 25 for constructing a macadam road: Macadam paving, A. Brazos & Sons, Middletown, Conn., 75 cts. a lin. ft.; A. D. Bridge, Hazardville, Conn., 80½ cts.; Willard W. Ballou, Central Village, Conn., 80 cts. Cobble gutter, Brazos & Sons, 50 cts. a sq. yd; A. D. Bridge, 36 cts.; W. W. Ballou, 50 cts..

SEWER SOUNDINGS.—Lansdowne, Pa.—H. L. Warren, Secy., informs us that the following bids were received June 17 for making soundings along the line of the proposed sewers, as advertised in Engineering News: Dry borings, F. J. Boas, Philadelphia, 55 cts. a ft.; Janvier & Harris, Lansdowne, 20 cts.; A. Flemstrom, 35 cts.; hydraulic borings, F. J. Boas, 45 cts. a ft.; J. H. Baer & Co., Philadelphia, 33 cts.; B. F. Sweeten & Co., Camden, N. J., 20 cts.; A. Flemstrom, 38 cts. It is estimated that there will be 85 holes, from 6 to 15 ft. deep.

CRUSHED STONE.—Newburyport, Mass.—T. F. O'Neal has been awarded the contract for furnishing 5,000 tons of crushed stone for macadamizing at 90 cts. a net ton.

LAYING WATER PIPE.—Boston, Mass.—We are informed that the Metropolitan Water Board received the following bids June 20 for laying water pipe in a portion of Section 19:

Quantities.	Bruno & Salamone, E. Boston, Mass. (accepted.)	M. Russo & Co., Boston, Mass.	H. A. Hanscom & Co., W. Medford, Mass.
Lay'g 48-in. c.i.pipe.	2,800 lin. ft..	$1.85	$1.94	$2.75
12-in., blow-offs.	50 " "	1.00	.50	.75
Rock excav., abv grd	400 cu. yds.	2.25	2.90	4.00
" " bel "	10 " "	3.00	2.90	4.00
Earth " abv "	10 " "	.75	.50	2.00
Setting air valve ..	1.....	3.00	3.00	3.00
Chmbrs, 36-in. valve	1.....	60.00	60.00	60.00
Other vlvs, &c*..	3 each...	40.00	30.00	40.00
Concrete masonry ..	10 cu. yds.	5.00	5.00	5,50
Total		$6,401	$6,854	$9,635

*Chambers for valves less than 20 ins. diameter and air valves.

BIDS RECEIVED AT BUFFALO, N. Y., JUNE 14, FOR THE SUBSTRUCTURAL WORK OF THE SENECA-HAMBURG ST. VIADUCT.

Items and quantities.	Engineer's estimate.	A. P. Kehr.	Williams, McNaughton & Papst.	Dwyer & Huntington.	Charles Mosier.	Brown, Stabell & Griffiths.	Christopher Smith.	Hingston & Woods.	Henry B. Burghard.	William Bros. & Morse.	B. I. Crooker.	James B. Donnelly.	Bernard P. Smith & Co.	Furnaceville Iron Co.
Brick, a 1,000	.....	$12.00	$15.00	$16.00	$14.00	$14.00	$16.00	$15.00	$14.00	$12.50	$12.00	$14.40	$12 00	$17.00
Concrete, fndatns, etc., nat. cem., a cu.yd.	.....	3.50	3.45	3.50	3.50	4.00	1.50	3.30	3.25	3.66	3.25	3.60	3.60	5.00
Sidewalks & abt curb'g*. 737 cu. yds.	$3.50	3.50	3.00	3.50	3.00	3.50	1.50	3.30	3.25	3.66	3.25	3.54	3.60	4.50
Portland cement ..... 6,400 " "	5.00	4.50	4.24	4.50	4.10	5.25	5.00	4.60	4.50	5.10	4.85	4.22	5.10	6.00
Crosswalks taken up, etc. 1,432 sq. ft...	.02	.06	.02	.02	.01	.02	.02	.03	.02	.03	.02	.025	.03	.20
To be relaid, a sq. ft.....	...	.10	.15	.25	.12	.10	.14	.10	.10	.10	.10	.09	.10	.50
New, including concrete. 4,008 sq. ft...	.35	.50	.37	.35	.37	.42	.25	.40	.35	.53	.38	.38	.52	.50
Curbing, to be taken up.. 4,161 lin. ft..	.02	.05	.02	.02	.01	.02	.03	.03	.02	.01	.02	.025	.02	.02
To be reset ..... 900 " "	.10	.10	.10	.15	.025	.09	.02	.10	.10	.10	.09	.1035	.10	.12
New work ..... 5,243 " "	.34	.34	.34	.35	.37	.33	.25	.35	.30	.60	.35	.4025	.40	.50
Excavation, solid rock, a cu. yd.....	...	2.00	4.50	2.50	1.50	2.50	3.50	3.00	3.00	1.25	3.00	1.80	2.00	2.00
Loose rock, a cu. yd.	...	1.50	1.50	1.00	1.00	1.50	1.75	1.50	2.00	1.00	1.60	1.20	.75	1.50
Foundation, earth .....11,756 cu. yds.	.40	.30	.40	.40	.26	.30	.60	.27	.35	.35	.30	.42	.42	.60
New subgrade, sts., earth 360 " "	.40	.30	.35	.30	.26	.30	.60	.35	.35	.35	.28	.42	.40	.30
Haul, 100 ft. abv 1,000 ft. limit, a cu.yd.	...	.10	.02	.02	.75	.02	.12	.02	.02	...	.06	.03	.0125	.05
Filling (excess of excav.)..19,880 cu. yds.	.30	.15	.39	.40	.50	.15	.125	.30	.30	.44	.30	.54	.40	.75
Cellars ..... 700 " "	.40	.20	.39	.40	.50	.15	.125	.30	.35	.44	.20	.5175	.40	.75
Iron, wrought ..... 3,376 lbs.....	.04	.04	.02	.03	.0225	.04	.03	.03	.04	.03	.03	.025	.04	.04
Pipe, cast, 4-in. stand'rd† 400 lin. ft..	.35	.30	.30	.35	.15	.09	.40	.25	.20	.40	.30	.50	.30	.40
Manholes, new, 3 to 6 ft. high.....	...	7.50	30.00	15.00	40.00	36.00	30.00	30.00	25.00	25.00	10.00	37.80	25.00	25.00
" " 6 " 8 " "	...	12.00	32.00	20.00	40.00	39.00	30.00	33.00	35.00	30.00	15.00	42.00	30.00	26.00
" " 8 " 10 " "	...	16.00	35.00	30.00	40.00	41.00	35.00	36.00	40.00	40.00	18.00	45.00	33.00	30.00
" " 10 " 12 " "	...	20.00	36.00	35.00	40.00	43.00	35.00	39.00	45.00	45.00	25.00	48.00	36.00	35.00
" " 12 " 15 " "	...	25.00	39.00	40.00	40.00	45.00	40.00	43.00	50.00	55.00	38.00	51.75	39.00	40.00
" " 15 " 18 " " 2 each...	45.00	30.00	40.00	50.00	35.00	47.00	45.00	48.00	50.00	65.00	38.00	55.20	42.00	50.00
" " 18 " 20 " " 1.....		36.00	45.00	55.00	35.00	49.00	50.00	50.00	50.00	72.00	40.00	57.60	45.00	75.00
" rebuilt ..... 76 lin. ft..	2.00	1.50	4.00	3.00	5.00	2.50	3.00	3.00	2.00	3.00	1.00	4 80	1.25	5.00
Masonry, coping, 10-in.§..14,368 sq. ft...	.70	.65	.65	.70	.65	.80	.85	.85	.70	.80	.75	.75	.70	.80
12-in., abutments..... 312 " "	.75	.75	.70	.60	.76	.85	.65	.70	.70	.70	.80	.75	.75	.90
16-in., on piers ..... 964 " "	.75	.95	1.00	.70	.58	.85	.65	.70	.75	.70	1.00	.86	.75	1.15
12-in., wheel guards.. 1,009 " "	.75	.75	.70	.70	.75	.85	.65	.70	.70	.70	.75	.64	.70	1.00
Bridge seats or col. bases 1,572 cu. ft...	.75	.60	.70	.50	.75	.85	.75	.70	.70	.50	.75	.47	.75	.95
Fender posts ..... 62 " "	1.75	1.00	2.20	3.00	2.00	2.00	3.00	.70	2.00	1.65	1.50	1.20	5.00	1.20
Steps, Medina standstone ... " "	...	2.00	1.50	1.50	1.00	2.50	2.00	.85	2.25	1.00	1.00	.97	1.00	1.50
First-class ..... 565 cu. yds.	11.00	7.00	10.00	8.00	11.25	13 00	12.00	9.00	10.50	8.44	12.00	12.07	10.00	11.00
2d-class, ret. walls &c... 7,370 " "	6.25	5.00	5.75	5.50	6.00	5.75	6.50	5.80	6.50	4.98	6.00	5.71	6.30	7.60
3d-class, ret. walls etc... ... " "	...	5.00	5.00	4.75	5.50	4.50	5.50	4.50	5.00	4.50	3.98	3.99	4.25	6.00
Pavement, stone, taken up‖ ... sq. yds.	...	.70	40	.25	.50	.30	1.00	1.00	.25	.60	.30	.42	.05	.30
Includ'g sand base.... ... " "	...	.50	.20	.20	.25	.01	.30	.50	.25	.40	.20	.30	.05	.20
Stone alone ..... 7,192 " "	.01	.25	.01	.02	.20	.01	.20	.12	.02	.25	.15	.25	.02	.15
Asphalt, concrete base.. 104 " "	.12	.60	.30	.10	.20	.10	.30	.12	.10	.10	.25	.36	.12	.30
Relaid, Medina block... ... " "	...	2.25	1.95	2.35	2.00	1.50	3.00	1.50	1.50	1.45	1.65	1.70	1.40	1.30
Stone on sand base.... 594 " "	.50	2.00	.50	.50	.80	.50	1.00	1.00	.50	1.10	.50	.72	.55	.27
New, Med. blk., con. base11,506 " "	3.00	2.70	2.37	2.30	2.60	2.50	2.00	2.50	2.50	2.76	2.75	2.74	2.63	2.65
Stone, including sand. ... " "	...	2.25	2.10	1.80	2.25	2.00	2.00	2.00	2.00	2.10	2.50	2.01	2.00	1.75
Stone alone .... " "	...	1.75	1.50	1.40	2.00	1.65	1.50	1.60	1.50	1.60	2.20	1.68	1.50	1.45
Asph., inc bindr & con ... " "	...	4.00	2.00	2.75	3.00	2.21	3.00	3.00	2.25	2.25	3.00	2.40	2.50	3.00
Asphalt, inc. binder... ... " "	...	3.00	1.50	2.00	2.50	1.61	2.50	2.60	1.75	1.70	2.75	1.80	2.00	2.50
Piling in foundation..... 3,382 lin. ft..	.25	.24	.25	.25	.25	.25	.45	.35	.25	.30	.25	.24	.25	.40
In cofferdam .... " "	...	.24	.30	.25	.25	.35	.55	.40	.35	.30	.30	.24	.25	.40
In falsework .... " "	...	.24	.30	.25	.25	.35	.55	.40	.35	.30	.30	.26	.25	.50
Railing, iron, inc. posts.. 3,996 " "	1.95	1.90	1.85	1.60	1.75	1.60	1.40	1.60	1.85	1.65	1.75	1.68	1.60	1.76
Cast-iron posts, addt'n'l, each	...	10.00	9.00	8.00	9.50	12.00	8.00	10.00	10.00	8.00	8.00	10.80	7.50	7.70
Receivers, new ..... 21 each...	35.00	45.00	33.00	35.00	44.00	35.00	45.00	35.00	35.00	55.00	35 00	60.00	35.00	35.00
Resetting ..... 10 " ...	15.00	25.00	12.00	7.50	14.00	15.00	20.00	15.00	15.00	30.00	15.00	30.00	10.00	5.00
Sewer and house connect'ns:														
New, 36-in., a lin. ft.	...	3.00	3.50	3.00	3.50	3.25	4.00	3.50	3.50	3.00	3.50	3.58	3.50	3.00
" 24-in., "	...	2.50	2.50	2.75	1.75	3.00	3.70	3.00	3.00	1.55	3.25	3 06	2.75	2.00
" 18-in., "	...	2.25	2.00	2.50	1.75	2.75	3.00	1.75	2.25	1.00	2.75	2.70	1.70	1.00
" 15-in., "	...	2.00	1.50	2.50	1.75	2.50	2.00	1.50	2.00	.85	2.75	2.26	1.25	.95
" 12-in., " .. 370 lin. ft..	2.50	1.00	.75	2.25	.68	1.75	.90	1.35	1.00	.60	.75	2.22	.70	.80
" 10-in., " .. 659 " "	2.00	.75	.60	2.00	.60	1.60	.70	1.25	1.00	.57	.75	1.98	.06	.50
" 9-in., "	...	.60	.60	1.75	.60	1.35	.70	1.00	1.00	.52	.75	1.74	.60	.45
" 8-in., "	...	.55	.60	1.75	.60	1.25	.65	.75	1.00	.50	.75	1.44	.55	.35
" 6-in., "	...	.50	.60	1.50	.45	1.20	.60	.65	1.00	.45	.75	1.32	.50	.35
Sidewalks, wood, taken up11,626 sq. ft..	.005	.005	.01	.01	.01	.005	.01	.01	.005	.01	.005	.0075	.01	.01
Stone, taken up ..... 6,514 " "	.02	.02	.02	.02	.015	.02	.02	.02	.02	.04	.01	.05	.01	.10
Relaid, wood .... " "	...	.10	.025	.02	.06	.04	.02	.02	.02	.03	.03	.01½	.05	.03
Stone ..... 330 " "	.10	.10	.06	.10	.08	.09	.03	.10	.10	.05	.10	.09⅝	.08	.20
New stone .....35,565 " "	.23	.22	.22	.25	.23	.22	.25	.30	.23	.22	.23	.25	.25	.35
New, including sand..... ...	.25	.30	.35	.35	.20	.35	...	...	.30	.25	.30	.31	.25	.30
Timber, oak, per M. ft..... ...	40.00	40.00	35.00	40.00	38.00	40.00	35.00	35.00	35.00	30.00	39.00	33.60	38.00	40.00
Pine (sidewalks, etc.).... 5,000 ft. B.M.	20.00	25.00	20.00	25.00	25.00	25.00	30.00	25.00	20.00	20.00	28.00	26.40	30.00	25.00
Hemlock ..... 41,000 " "	16.00	16.00	16.00	18.00	15.00	16.00	18.00	16.00	15.00	15.00	15.00	17.40	18.00	16.00
Beach or maple, a M. ft.	...	35.00	20.00	20.00	25.00	25.00	18.00	20.00	20.00	25.00	21.50	18.60	18.00	20.00
Total		$164,293	$149,234	$153,021	$153,336	$159,349	$159,630	$159,977	$160,157	$160,594	$163,038	$163,782	$164,767	$168,347	$204,031
Cast iron		...	.025	.03	.02	.04	.03	.05	.03	.03	...	.03	.025	.02	.02

*Natural cement. †Built through walls 6 ins. below tap for sewer connections. §Abutments and approaches, Medina sandstone. ‖Including concrete base.

CEDAR BLOCK PAVING.—Detroit, Mich.—The following contracts have been let by the board of public works for cedar block paving on a concrete foundation: Geo. E. Currie & Co., 7th St., $1.44 a sq. yd.; total, $5,860; Champlain St., $1.48 a yd.; $4,512; H. Merdian, Riopelle St., $1.17 a yd.; $7,315; Talbot Paving Co., Trumbull Ave., $1.13 a yd.; $3,067.

BY-PASS.—Chicago, Ill.—The board of trustees of the Sanitary District of Chicago, received the following bids June 8 for substructure, auxiliary work and materials for by-pass along the Chicago River, based on grillage foundation and stone walls; all bidders of Chicago:

Bids Received at Chicago, Ill., June 8, for Work and Materials for By-Pass Along the Chicago River.

Quantities.	Lyon & Drews Co.	The Fitz Simons & Connell Co.	Shaller & Schniglau Co.	Cogan & Pound.	Christie, Lowe & Heyworth.	Griffiths & McDermitt.	Ross & Ross.	Chicago Star C. & D. Co.
Lump sum for removal	$1,000.00	$6,000.00	$3,000.00	$5,000.00	$7,945.00	$6,000.00	$4,000.00	$7,365.00
Coffer-dam. { Lumber ..... 92,160 ft. B.M.	30.00	25.00	33.60	50.00	63.50	38.50	65.00	35.00
{ Piles ..... 6,500 lin. ft..	.25	.17	.21	.27	.39	.35	.25	.23
Excavation. { Walls ..... 27,580 cu. yds.	.50	.48	.75	1.00	.72	1.15	.68	1.25
{ Between walls .. 30,270 " "	.40	.42	.60	.50	.66	.88	.60	1.25
Wall foundation, grillage..644,160 ft. B.M.	21.00	21.00	24.00	35.00	25.60	30.00	48.00	25.00
Masonry: Stone ..... 7,275 cu. yds.	6.80	7.25	7.25	7.00	8.40	7.00	12.00	12.50
Temporary { Lumber .....270,000 ft. B.M.	20.00	20.00	24.00	32.50	33.85	28.50	36.00	28.00
roadway. { Piles ..... 10,000 lin. ft..	.15	.25	.21	.25	.39	.35	.25	.25
Reconstruction freight house, lump sum..	750.00	1,500.00	1,675.00	3,000.00	2,820.00	1,200.00	800.00	1,000.00
Paving ..... 2,700 sq. yds.	.50	1.00	1.00	.75	.58	1.10	.75	1.00
Cylinder piers. { Iron ..... 34 tons....	75.00	75.00	75.00	60.00	57.24	60.00	48.00	140.00
{ Piles ..... 500 lin. ft..	.30	.30	.21	.50	.51	.36	.25	.30
{ Concrete . 54 cu. yds.	5.09	8.00	5.60	7.00	.9.00	10.00	8.50	7.00
Total	$106,255	$116,854	$130,425	$146,517	$153,881	$158,553	$184,012	$210,488

SEWAGE DISPOSAL BEDS.—Bristol, Conn.—D.J. Heffernan, Borough Clk., 117 North Main St., informs us that the following bids were received June 20 for constructing two sewage disposal beds; only one bed will be built this summer; only local labor will be used: T. H. Keirns, Bristol, (informal), 22 cts. a cu. yd.; P. H. Condon & Co., Bristol (accepted), 21 cts. a cu. yd.; F. T. Ley & Co., Springfield, Mass. (informal), 19 cts. a cu. yd.

VALVES, HYDRANTS, ETC.—Sharpsville, Pa.—The following bids were received June 9 by J. B. Strawn, Consult. Engr., Salem, O., for furnishing valves, etc., for the proposed works, as advertised in Engineering News;

Items.	Eddy Valve Co., Waterford, N. Y.	Mich. Brass & Iron Wks., Detroit, Mich.	Bourdon Copper & Brass Wks., Cincinnati	Ludlow Valve Co., Troy, N.Y.	Bailey-Farrell Mfg Co., Pittsburg, Pa.
Hydrants: 6-in., frost c.	$20.00	$23.00	$24.40	$26.00	
4-in., frost c.	20.00	22.50	24.00	22.75	
6-in., no frost c.	20.00	18.00	.....	26.00	
4-in., "	$22.00	20.00	17.50	.....	22.75
Valves: 10-in.	22.85	21.50	22.00	23.50	24.70
			19.60		
8-in.	16.65	14.50	14.75	17.50	18.50
			13.50		
6-in.	11.00	9.00	9.25	11.50	12.25
			8.75		
4-in.	6.65	5.50	5.50	7.00	7.50
			5.00		
Valve boxes	2.75	2.50	2.50	3.25	2.85

SEWERAGE SYSTEM.—Concord, Mass.—We are informed that the following bids were received June 22 for constructing the proposed system, as advertised in Engineering News; the contract was let to T. W. Kinser & Sons, Boston, the town to furnish all pipe, iron work and cement; Engr., Leonard Metcalf, 89 State St., Boston:

Bids Received at Concord, Mass., June 22, for Constructing a Sewerage System.

Quantities.		Aab & Co., Waltham.	E. D. Bell, 24 Warren St., Roxbury.	Bruno & Solomone, Boston.	A. W. Bryne Con. Co., Boston.	J. H. & G. M. Bryne Hyde Park.	Cheney, Trumbull & Trumb'l, Boston.	Chas. G. Craib, 17 Otis St., Boston.	Frescoln & Malone, Allston.	E. J. Jones, 41 Irving St., Malden.	J. D. Kelly, Clinton.	Kelly and O'Hearn Brookline.	T. W. Kinser & Sons, Boston.	Michael Russo, 240 NorthSt., Boston.	Stone & Thurston, 220B'dway, N.Y.	C. E. Trumbull & Co., Boston.
Excavation—storage well	2,400 cu. yds.	$0.60	$2.00	$1.95	$1.30	$1.75	$1.50	$2.00	$1.59	$0.75	$1.75	$2.75	$1.50	$0.85	$2.10	$3.50
" 0 to 8 ft. deep.	30,000 " "	.52	.45	.38	.38	.55	.45	.48	.40	.30	.36	.55	.96	.43	.38	.64	.60
" 8 " 14 " "	9,000 " "	.72	1.00	1.00	.95	1.00	.70	.73	.80	.70	1.10	.90	1.29	.59	.62	.80	1.00
" 14 " 20 " "	1,950 " "	1.15	1.50	1.50	2.00	1.25	1.23	1.60	1.20	1.35	1.75	2.50	.85	1.00	2.50	1.50
" 20 " 26 " "	60 " "	1.70	2.50	2.10	2.00	3.00	2.00	1.50	3.00	2.00	1.75	2.00	5.00	1.25	1.00	3.00	2.00
Refilling below grade	100 " "	.40	1.00	.50	.75	1.00	.50	2.00	1.00	.50	.75	.60	1.50	1.20	.50	1.00	.80
Ledge or bowlders	100 " "	3.00	3.00	1.50	.25	.01	.50	3.50	4.00	.01	3.50	4.00	2.00	1.50	2.00	4.00	4.00
Underdrain	1,000 lin. ft.	.15	.20	.30	.20	.40	.15	.15	.30	.05	.15	.20	.20	.20	.01	.35	.75
Laying sewer pipe	35,600 " "	.13	.10	.20	.08	.10	.10	.12	.15	.12	.11	.10	.25	.10	.05	.10	.10
C. I. pipe, river crossing	450 " "	3.00	3.50	4.00	4.00	8.00	12.00	2.95	10.00	2.50	2.00	5.00	1.00	6.00	2.00	1.20	6.00
Portland concrete*	270 cu. yds.	3.80	4.50	6.00	4.50	5.00	4.00	5.85	5.00	5.00	4.50	4.00	6.00	5.00	4.50	6.50	3.00
Portland concrete†	200 " "	3.20	4.00	5.50	4.50	5.00	4.00	3.85	5.00	3.00	3.50	4.00	5.00	3.50	4.00	5.00	3.00
Brickwork, storage well	300 " "	8.20	8.00	15.00	9.25	5.00	10.50	10.00	10.00	6.25	11.50	8.25	6.00	10.00	10.00	16.00	11.00
Brickwork, all other purposes	575 " "	8.00	9.00	15.00	9.25	5.00	10.50	10.00	10.00	6.25	10.75	8.25	7.00	10.00	9.00	14.00	10.00
Foundations	5,000 ft. B.M.	22.50	30.00	20.00	25.00	40.00	35.00	28.00	30.00	15.00	30.00	35.00	40.00	20.00	30.00	25.00	40.00
Macadam	70 cu. yds.	2.50	3.00	2.70	2.00	.25	1.75	2.50	2.00	1.50	.75	1.00	3.00	2.00	1.00	2.25	
Gravel fill	650 " "	.25	.40	.40	.35	.50	.50	1.00	.50	.50	.75	.40	2.00	.35	.40	1.00	.40
10-in. force main	5,200 lin. ft.	.30	.25	.90	.25	.30	.35	.38	.25	.21	.30	2.50	.75	.40	.25	.30	.30
Total		$52,779	$45,445	$58,935	$44,814	$49,464	$49,503	$47,639	$51,155	$36,240	$44,605	$61,681	$76,620	$43,835	$36,200	$59,775	$58,873
Extra work		11.00	6.00	13.00	5.00	8.00	9.00	7.00	10.00	2.00	4.00	15.00	16.00	3.00	1.00	14.00	12.00

*For roof, floor and storage well. †For all other purposes.

We are informed in regard to this contract that none of the bids were accepted, but subsequently a new and modified contract was negotiated with T. W. Kinser & Sons, Boston. The modification was thought advisable on account of certain difficulties in the nature of the material, to be encountered on a portion of the work, disclosed by the digging of a test pit, which were not, however, disclosed until after the call for bids had been made.

ROAD.—Boston, Mass.—The Metropolitan Water Board received the following bids June 20 for building a road; part of Section 4; contract awarded Newell & Snowling Construction Co.:

Bidder.	Earth excavation, 31,900 cu. yds.	Overhaul, 100 ft., 26,000 cu. yds.	Total.
Newell & Snowling Con. Co., Uxbridge	$0.16	$0.01	$5,364
Cenedella Bros., Milford	.16¾	.01	5,603
Moulton & O'Mahoney, Boston	.17	.01	5,683
Mignault & McGrain, S. Framingham	.17⅝	.00¾	5,738
Neill Devine, Clinton, Mass.	.17⅝	.01	5,803
M. J. Kane, Worcester, Mass.	.19	.01	6,321
McClellan & Hennessey, Grafton, Mass	.19	.01	6,321
John Donovan, Allston, Mass.	.19⅜	.01	6,560
T. H. Riddle & Co., New York	.21	.008	6,907
Martin & Proctor, Fitchburg, Mass.	.20	.03	7,160
Braithwaite & Williams, Southborough	.21⅞	.01	7,238
O. Cunningham & Son, Somerville	.27½	.00¾	8,968
John Walker, Newmarket, N. H.	.29	.01½	9,641

RAILS, ETC.—China.—John Goodnow, Consul-General, Shanghai, reports that the following bids were received April 30 by the department of Imperial Chinese Railways, Tientsin, China, for furnishing 4,000 tons of rails, 265 tons of fish plates, 26 tons of track bolts and 90 tons of track spikes, the rails to be each 30 ft. long, weigh 85 lbs. a yard, carry 24 tons in the center and 5⅜ ins. high by 5⅜ ins. at the base:

Bidder.	Makers.	Rails.	Fish plates.	Bolts.	Sp'k's
Fobes & Co.	Batt & Co., Ltd.	$116,000	$11,660	$1,705	$5,200
T. Shewan	Campbell	117,806	9,817	1,895	5,905
M. Jardine & Co.	Campbell	126,603	10,323	2,027	6,405
Am. Trad'g Co.	Illinois St'l Co.		$142,155		
Schiller & Co.	Campbell	116,640	9,739	1,876	5,012
M. B. Kaisha	Campbell		186,746		
A. W. Bash	Lackawanna	132,921	10,690	1,473	5,103
Spitzel & Co.	Cambria	135,108	10,935	1,458	5,793
Vanderstegen	Cockerill	131,240	.....	1,505	4,898
Carlowitz & Co.	Campbell	120,522	9,969	1,898	6,148
Daniel Fearon	Cambria	126,117	11,956	1,774	5,344
Buchheister	Campbell	116,800	9,764	1,866	6,080
C. & J. Trd'g Co.	Campbell	121,014	9,963	8,043	.....
K. Arnold & Co.	Carnegie		148,522		
Lautz & Co.		128,790	10,449	2,041	6,318

The New York "Journal of Commerce" states that the material is to be delivered at Tienstin, one-half before Aug. 31 and the remainder before Sept. 30. The freight, insurance, etc., amount to about $5.50 gold a ton from Chicago, $7 a ton from New York, and $7.50 a ton from London or Antwerp. Of the bids, says Mr. Goodnow, Nos. 1, 2, 3, 5, 6, 10, 12, 13 and 15 are English rails; No. 9 is for rails from Belgium, and Nos. 4, 7, 8, 11 and 14 are American. Under date of May 14, the Consul-General informs the state department that the contract has been awarded to A. S. Fobes, an American citizen representing an English establishment, as follows: 4,000 tons (2,240 lbs.) steel rails at $29.20 a ton; fish plates, for above, $43.80 a ton; track bolts, for above, $65.70 a ton; spikes for above, $58.40 a ton. One-third of the price is to be paid with the order, one-third on shipment, and one-third on delivery.

BRICK PAVING.—Lima, O.—We are informed that the following bids were received June 23 for 6,500 sq. yds. of brick paving in West Wayne St.; R. H. Gamble, Cy. Engr.:

Items.		Barr & O'Brien, Lima.	Jacob Spyker, Lima.	H. Gantz, Columbus.	M. G. Cain, Dayton.
Excavation, a cu. yd.		$0.36	$0.35	$0.33	$0.40
Concrete, a sq. yd.		.53	.32	.50	.30
Straight curb, a lin. ft.		.38	.38	.36	.40
Circular curb, a lin. ft.		1.00	1.00	.72	1.25
Catchbasins, each.		20.00	13.00	24.00	28.00
Extra haul		.03	.03	.03	...
Kind of brick, a sq. yd.:					
Union Paver		.86	.86	.85	...
Wassell Block		.84	...	.83	...
Nelsonville Block		.84	...	.83	...
Metropolitan Block		1.04	1.04	...	...
Brown Granite Block		...	.86	.85	...
Hallwood Block		...	...	.85	.88
Filler	Bituminous grout.	.15	.15	.14	.16
	Coal tar	.14	.15	.14	.14
	Portland cement	.14	.14	.12	.15
	Murphy grout	.15	.15	.15	.15
	Sand	.05	.05	.05	.05

STEEL BRIDGE, APPROACHES, ETC.—Denver, Colo.—The following contracts have been awarded for constructing the 14th St. viaduct: Chas. Connor.—Earth embankment and slag riprap, 30,000 cu. yds., 22 cts. a cu. yd.; 1,000 cu. yds., $1.25, $7,850. The McGilvray Stone Co.—Masonry foundation and retaining walls, 3,660 cu. yds. broken ashlar, $7.15 a cu. yd.; 8 cu. yds. granite capstones, $60 a yd.; 43 cu. yds. concrete footing above water, $5.00 a cu. yd.; 175 cu. yds. concrete footing below water, $7.30; 70,000 ft., B. M., timber grillage in place, $25.00; 10,500 lin. ft. piling in place, 37 cts. a ft.; 3,850 cu. yds. dry excavation, 30 cts. a yd.; 3,700 cu. yds. wet excavation, $1.00 a yd., $38,857. John Gaffy & Co.—Cylinder piers and abutments, 43,230 lbs. steel in piers in creek bed in place, 5½ cts. a lb.; 51,630 lbs. steel in abutments in place, 3½ cts. a lb.; 16 cu. yds. sandstone caps and blocks, $19; 17 yds. brick parapet walls, $15; 153 yds. concrete in cylinder abutments, including footings, $4.25 a cu. yd.; 56 cu. yds. concrete in cylinder piers in creek bed, $7 a cu. yd.; 1,375 lin. ft. piles in cylinder piers, 32½ cts. a ft.; 3,000 cu. yds. excavation for cylinder abutments above water, 8 cts.; 10 yds. excavation for cylinder abutments below water, $1.00 a yd., $6,483. A. J. Tullock, Leavenworth, Kan.—Steel work, exclusive of piers and handrailing, removal of one truss span across Cherry Creek and two across the Platte River, $1,150; steel superstructure (lump sum), about 1,879 tons, average of 2.6 cts. a lb., $97,000; taking down and remodeling all of the old trestle work (cleaning and painting, etc.), $1,600; 320,000 lbs. steel added to old work to strengthen, 2.47 cts. a lb., $7,904, $107,654. Stewart Iron Works, Cincinnati, O.—Handrailing, 8,760 lin. ft. complete in place, $1.38, $12,089. The Denver Paving Co.—Curbing, paving and sidewalk flagging, 730 lin. ft. of 10 × 12-in. sandstone curbing in place, 95 cts.; 1,400 ft. of 5 x 16-in. sandstone curbing in place, 70 cts.; 100 ft. of granite curbing in place, $1.75; 68,040 sq. ft. sandstone flagging in place, 13½ cts., $11,034; 16,825 sq. yds. asphalt paving, including concrete base, $1.45, $35,430. Grand total, $208,362. Most of the steel will be furnished and the shop work done by the Pencoyd Iron Works on Mr. Tullock's contract, the erection being done by a force from the Missouri Valley Bridge & Iron Works. The first part mentioned is merely sub-let, however. The buckle plates will be furnished by the Carnegie Steel Co.

INDUSTRIAL NOTES.

MR. H. SHEELER, building raiser and mover, of Chicago, has removed his office from 83 and 85 Washington St. to 115 Dearborn St.

T. W. KINSER & SONS, contractors, have removed their offices from 609 to 613 Stock Exchange, Chicago, to 610 Tremont Bldg., Boston.

MURRAY, DOUGAL & CO., Milton, Pa., are reported to have an order from the Pennsylvania R. R. for 600 box cars of 80,000 lbs. capacity each.

THE WORCESTER DROP FORGING WORKS, Worcester, Mass., Wyman & Gordon, proprietors, has appointed Mr. F. A. Dennis, 116 Liberty St., New York agent.

THE JACKSON & WOODIN MFG. Co., Berwick, Pa., has an order from the Pennsylvania R. R. for 400 box cars of 80,000 lbs. capacity each, according to report.

THE BUCKEYE ENGINE CO., Salem, O., has received a contract to furnish three Buckeye automatic cut-off engines for the new electric plant in the Custom House, Louisville, Ky., according to report.

THE BALDWIN LOCOMOTIVE WORKS, Philadelphia, has appointed Mr. Richard H. Soule, Western Representative, with headquarters at Chicago, and Mr. C. A. Thompson, Southwestern Representative, with headquarters at St. Louis.

THE STILWELL-BIERCE & SMITH-VAILE CO. reports a satisfactory trade in the triplex pump line. The Chicago house recently received an order for two such pumps, with a combined capacity of 3,000,000 gallons in hours, from the Alpena Water Co., Alpena, Mich. The cago office has been removed from 63 South Canal St. 311 Dearborn St.

THE AMERICAN ROAD MACHINE CO., Kennett Square, Pa., has just shipped a carload of road machines, rock crushers, engines, road rollers, etc., for the United States government, which, it is stated, are to be used for road building in Cuba.

THE PITTSBURG BRIDGE CO., Pittsburg, through Mr. W. Church, its Western Manager, has been awarded a contract for furnishing the steel for the addition to the power house of the Metropolitan St. Ry., at Center Ave., Chicago. The approximate cost of this work will be $30,000.

McINTOSH, SEYMOUR & CO., Auburn, N. Y., are reported to have orders for two 700-HP. horizontal cross-compound engines for an electric railway in the city of Mexico, to be direct-connected to two 452-K-W. General Electric dynamos. The firm has also sold a 150-HP. engine to the Kimberly Mines, South Africa, to be direct-connected to two 50-K-W. dynamos.

CONTRACT PRICES.

PIPE SEWERS.—Paterson, N. J.—John Rainey, Clk. Dept. Sts. and Sewers, informs us that the following submitted the lowest bids June 17 for cement pipe sewers; Frank Puglia bid $1.39 a ft. on 700 ft. of 18-in. pipe for East 33d St.; Francis P. Murray, $1.30 a ft. on 500 ft. of 18-in. pipe for 5th Ave.; Joseph Puglio, on 800 cu. yds. bluestone, $2.00; Frank Puglio bid 1 ct. a cu. yd. for bluestone:

Bids Received at Paterson, N. J., June 17, for Cement Pipe Sewers.

Bidder.	Location of sewer.	Pipe, 15-in.	Pipe, 12-in.	Each, Manholes.	Each, Catchbasins	Sandstone, Hard.	Sandstone, Soft.	Timber.	House conns.	Total.
Francis P. Murray, 1245 Madison Ave.	Atlantic St.	$1.25	$0.85	$24.00	$21.00	$0.50	$0.50	$15.00	$0.25	$1,602
" "	Camden St.	.....	.80	24.00	21.00	.50	.50	15.00	.24	567
Joseph Puglio, 37 Cross St.	North 8th St.	1.55	1.20	25.00	25.00	.01	.01	16.00	.25	3,519
Samuel Crawford, 115 Mill St.	East 34th St.	1.25	...	24.00	24.00	.50	...	16.00	.25	1,176
Frank Puglio, 20 Ellison St.	East 33d St.	...	...	25.00	22.00	1.05	.68	16.00	.23	1,549
Joseph Puglio, 37 Cross St.	East 23d St.	...	.77	20.00	20.00	.50	.50	16.00	.24	806
Francis P. Murray, 1245 Madison Ave.	5th Ave.	...	...	24.00	21.00	.75	.75	15.00	.24	1,045

LEVEE.—New Orleans, La.—J. D. Schmidt, Ch. Clk., U. S. Engrs. Office, 3232 Prytania St., informs us that the following have been recommended to be awarded contracts for constructing levees, bids for which were opened June 16; Maj. J. H. Willard, U. S. Engr.:

Bids Received at New Orleans, La., June 16, for Constructing Levee.

Bidder.	Levee.	Sections		Number of cu. yds.	Price a cu. yd., cts.
A. P. Martin, Waterproof, La.	Winter Quarters,		3 to 6	60,000	18
C. E. Pouder, Natchez, Miss.	Panola	"	1 " 5	77,500	*12.94
John G. Sessions, Leota Landing, Miss.	"	"	6 " 10	79,000	10.98
C. E. Pouder, Natchez, Miss.	Duckpond	"	1 " 8	114,000	13.24
John G. Sessions, Leota Landing, Miss.	"	"	9	15,000	11.97
" " " "	Stockbridge	"	1 to 5	75,000	12.44
Herman F. Gaibish, St. Joseph, La.	"	"	6 " 10	75,000	11.99
John G. Sessions, Leota Landing, Miss.	"	"	11 " 14	59,000	9.98
" " " "	Waterproof	"	1 " 6	90,000	10.24
M. L. Wolf & Co., Ottumwa, Ia.	"	"	7 " 12	90,000	12.5
" " " "	"	"	13 " 18	88,000	14
Clark & Reagan, Red River Landing, La.	Aquasca	"	1 " 5	83,400	13.90
Belden & Seely, Syracuse, N. Y.		"	51 " 61	128,200	11
" " " "		"	62 " 69	109,300	11
" " " "		"	70 " 78	114,600	11
" " " "		"	81 " 88	107,500	11

*Land side; 11.48 cts. for the river side.

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A new Classified Directory of Advertisements begins on page VIII

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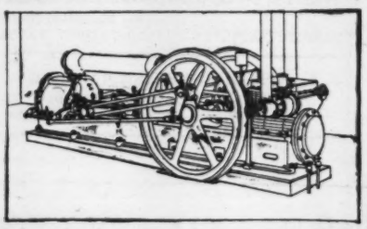

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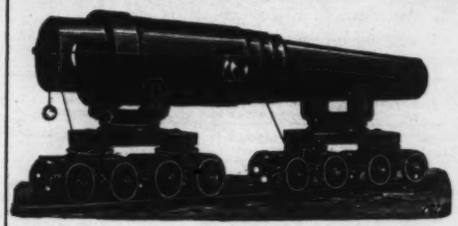

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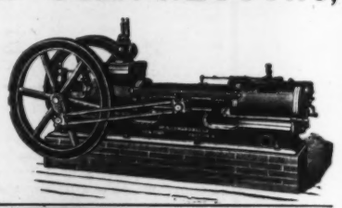

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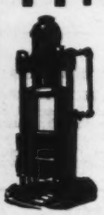

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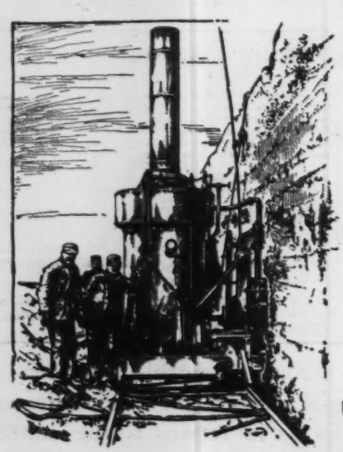

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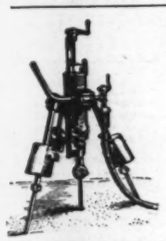

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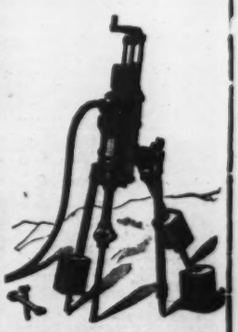

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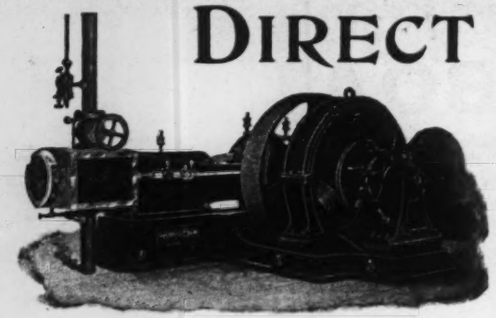

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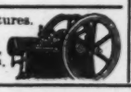

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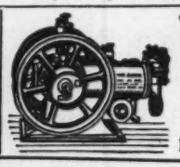

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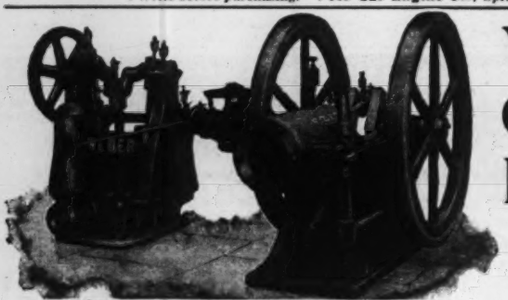

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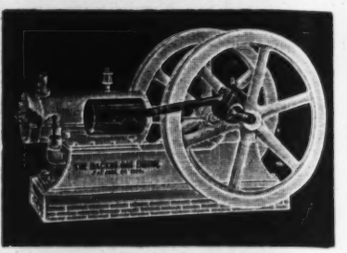

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Illinois Central R. R. Co 32
Indianapolis Street Sweeper Co 34
Ingersoll-Sergeant Drill Co 5
Ingram, E L 2
Inst. for Home Study of Eng 19
International Cor. Schools 19
International Pavement Co. 22
Iowa Engineering Co 2
Iowa State College 3
Israels, J J 2
Italian Emigrant Aid Society 21
Jackson, John H 34
Jewell Fliter Co, O H 40
Johnson & Wilson 40
Jones, Benj. F 25
Kansas City Wheel Scraper Co 33
Kaufman, G 3
Kearns & Egan 25
Kelly Isl'd Lime & Trans. Co 1
Kelly, O S Co, The 32
Kennedy, Julian 2
Kennedy-Kling Co 21
Kenwood Bridge Co 34
Kent, Wm 2
Keuffel & Esser Co 19
Keystone Crusher & Boiler Co 33
King Bridge Co 34
Kinnear & Gager Co, The 12
Kinser T W & Sons 21
Kirk, Arthur, & Son 18
Knight, F C & Co 19
Knowles Steam Pump Works. 10
Knopf, G W 2
Kolesch & Co 19
Koken Iron Works 34
Koppel, Arthur 4
Lafayette College 3
Laidlaw-Dunn-Gordon Co. 18
Lake City Engineering Co. 10
Lake Shore Foundry 17
Lamb Wire Fence Co 37
Lambert Hoisting Engine Co. 27
Lathbury, Spackman & Bache. 2
Latrobe Steel Co 1
Laub, Hermann 2
Lawrence Cement Co 40
Lawrenceville Cement Co. 40
Lawrence Machine Co 10
Leffel, Jas & Co 9
Lehigh University 3
Lehigh Valley Concreting Co. 35
Lehigh Valley R. R 24
Lennox Machine Co 14
Lesley & Trinkle 30, 40
Lewis, Chas F 3
Lewis, Harry J 2
Lidgerwood Mfg Co 27
Lietz Co, A 19
Long, Dennis, & Co 17
Loomis Fliter Co 1
Lowreth, Charles F 2
Ludlow Valve Mfg Co 15
Lucius, Albert 2
Lunkenheimer Co 9
Lynch, John E 12
Macleod & Clark 24
Maclay, W W 32
Mairs & Lewis 26
Mamaroneck Granite Quarries 32
Manhattan Concrete Co 21
Manning, J T 1
Marion Steam Shovel Co 29
Martino, Pasquale 28
Maslins, John & Son 10
Mason Regulator Co 20
Mason, W P 2
Massillon Bridge Co 35
McConway & Torley Co 37
McGill University 3
McGowan Co, John S 10
McKenna, Charles F 20
McKiernan Drill Co 4
McLean, John 15
McMullen, Arthur Co 28
McNeal Pipe & Foundry Co. 17
McNeil & Bro, James 2
McRae, A L 2
Meacham & Wright 31
Merchant & Co 35
Meredith, J F 18
Merrill Bros 20
Merritt & Company 21
Metallic Flexible Tubing Co. 17
Metropolitan Fireproofing Co 35
Michigan Brass & Iron Works. 15
Michigan College of Mines 3
Michigan Pipe Co 16
Mieta & Weiss 6
Millar, Chas & Son 21
Miles Steam Boiler Works 20
Milwaukee Bridge & Iron Wks 34
Milwaukee Cement Co 31
Missouri School of Mines 3
Mo Valley Bridge & Iron Works 38
Modjeski, Ralph 2
Monarch Mfg. Co 9
Monmouth Mining & Mfg Co. 34
Moore Mfg Co, Buffalo 40
Morris Machine Works 10
Morse & Son, A J 26
Mueller Mfg Co, H 16
Mundy, J 27
Nat'l Foundry & Pipe Works. 17
National Meter Co 40
National Supply & Metal Co. 1
National Switch & Signal Co. 1
Neptune Meter Co 13
Neuchatel Asphalt Co, Ltd. 30
New Columbus Bridge Co. 34
Newcomer, G M 2
New England Structural Co. 34
N. J. Foundry & Machine Co. 36
New Orleans Wood Preyg. Wks 36
N J Steel & Iron Co 1
New York Central R R. 18
New York Expanded Metal Co. 21
N Y & Bermudez Co 30
N Y & Roseendale Cement Co. 40
New York Dredging Co 27
New York Fliter Mfg Co 40
New York Rail Insulation & Equipment Co 38
Nitro Powder Co 22
Non-Polarizing Dry Battery Co. 7
Norfolk Creosoting Co 34
North-Western Exp. Metal Co. 21
Norton Cement Co, F O 40
Norwalk Iron Works Co 4
Norwood Engineering Co 15
Noyes, H L 7
Oastler, W C 32
Ogden, J Edward 17
Ohio Pipe Co 37
Old Dominion Creosoting Wks 35
O'Rourke, John F 35
Olsen, Tinius & Co 20
Osgood Dredge Co 29
Otto Gas Engine Works 6
Owen, James 2
Pacific Flush Tank Co 22
Page Woven Wire Fence Co. 37
Park Fire Clay Co 1
Patterson-Sargent Co 1
Passaic Rolling Mill Co 34
Patton Water Wheel Co 5
Pencoyd Iron Works 34
Penn Bridge Co 34
Penna Military College 3
Pennsylvania Steel Co 34
Phillips, Hiram 3
Phillips Rock Drill Co 5
Phoenix Bridge Co 34
Pierce Co., Geo N 2
Pierson, Geo S 2
Pittsburg Locomo. & Car W'ks 38
Pittsburg Reduction Co 20
Pittsburg Test Laboratory, Ltd 2
Playford Stoker Co 3
Pleuger & Senger Mfg Co. 18
Pneumatic Engineering Co. 1
Pollock & Co, Wm B 18
Poole, Robt & Son Co 4
Pope Mfg Co 29
Porter, H K & Co 38
Post & McCord 34
Potter, Alexander 3
Proposals 26
Pulsometer Steam Pump Co. 10
Purdue University 3
Purington Paving Brick Co. 30
Q & C Co 20
Queen & Co 19
Quigley & Co, R M 25
Quimby, Wm E 15
Railroad Supply Co 25
Railway Cycle Mfg. Co 38
Ramapo Iron Works 37
Rand Drill Co 5
Randolph & Clowes 1
Raymond, W G 3
Reading Foundry Co, Ltd. 17
Relling, Vilsack & Co 35
Remington Arms Co 9
Rensselaer Polytechnic Inst. 3
Rice, Geo S 3
Ricker, Geo A 3
Ricketts, Palmer C 3
Riehle Bros Test & Mach. Co. 15
Riggs & Sherman 3
Rinald Bros 35
Ritter-Conley Co 12
Roberts, A & P, Co 24
Roberts, Nathaniel 3
Robinson, Edw 15
Robinson & Ort 38
Rochester Bridge & Iron Wks. 34
Rochester Optical Co 9
Rodgers, J. C. & Son 25
Roebling J A Sons Co 40
Rogers, John M 5
Rogers & Manson 31
Rondinella, L F 3
Rose Polytechnic Institute 3
Rosenbaum, Wm A 1
Rosewater, Andrew 28
Ross, P Sanford 15
Ross Valve Co 13
Roots, P H & F M Co 11
Rumsey & Co 30
Russell & Co 32
Safety Car H'ting & L'ting Co. 37
San Francisco Bridge Co 34
Sanne, Oscar 3
Sanitary Product Co 21
Scherser Rolling Lift Bridge Co 35
Schoff, Frederic 3
Scholl, Julian & Co 32
Schrader's Son, A 30
Schultz Bridge & Iron Co. 35
Schwencke, Kirk & Co 19
Scelig, R 3
Sharon Boiler Works 12
Sharon Clay Mfg Co 24
Shaw, Willis 18
Sheeler, H 25
Shiffler Bridge Co 34
Shuart, B F 24
Sicilian Asphalt Paving Co. 30
Smidth, F L & Co 31
Smith, Edward & Co 1
Smith Mfg Co, Anthony F 16
Smith, S. Morgan Co 3
Smith, J T 3
Smith & Bro, Theo 27
Snow Steam Pump Works 7
Sooysmith & Co 36
Southern Expanded Metal Co. 21
Souther, Jas, & Co 29
Southwark Fdry & Machine Co 9
Sprague Electric Co 19
Springfield Gas Engine Co. 7
Springfield Boiler Co 17
Stackpole & Brother 19
Standard Boiler & Bridge Co. 12
Standard Silica Cement Co. 31
Stanwix Engineering Co 5
Stewart & Co, James 3
Stillwell-Bierce & Smith-Vaile Co 10
Storey Motor & Tool Co 7
Stow Flexible Shaft Co 19
Stowell & Cunningham 3
Strobel, C L 34
Struthers, Wells & Co 12
Stuebner, G L 25
Stupp Bros Bridge & Iron Co. 36
Sullivan Machinery Co 4
Suydam, M B & Co 35
Taylor, J. T 3
Thomson Meter Co 13
Thomson, T Kennard 3
Thompson & Co, J 15
Thorn Cement Co 31
Toledo Bridge Co 34
Toledo Fdry & Machine Co. 29
Tomkins, Calvin 31
Tower & Wallace 3
Townsend Foundry & Mach. Co 24
Trenton Iron Co 26
Tribus, Louis L 3
Ulmer & Hoff 19
Union Akron Cement Co. 31
Union Bridge Co 34
Union Hydraulic Works 13
University of Illinois 3
University of Kansas 3
University of Maine 3
University of Michigan 3
University of Pennsylvania 4
University of Virginia 3
U S Mineral Wool Co 1
U S Sanitary Co 22
U S Wind Engine & Pump Co 12
Utica Pipe Foundry Co 21
Valle & Young 33
Vanderbilt University 3
Vanderbilt & Hopkins 3
Van Wie, Irwin 10
Variety Iron Works Co 36
Vermenle, C C 3
Viney Ind. Gate Valve Co. 18
Voorhees, E 16
Voorhees, Paul 4
Vulcan Iron Works Chicago 27
Vulcan Iron W'ks Co, Toledo, O 29
Waddell, J A L 3
Wagner, J G Co 34
Wakefield Sheet Piling Co. 30
Walker Co 19
Walker, M 16
Want cards 18
Ward, John F 3
Waring, Chapman & Farquhar 3
Waring, Jr, Geo E 3
Warren F'dy & Machine Co. 17
Warren Scharf Asph't Pv'g Co 40
Washburn & Washburn 28
Watkins, Thos 15
Watson, D S 24
Watson—Stillman Co 4
Weaver Co, R T 16
Weber Gasoline Engine Co. 6
Weber Ry Joint Mfg Co. 38
Webster & Co 27
Wells Light Mfg Co 25
West Pascagoula Creosot'g Wks 36
Western Camera Mfg Co. 23
Western Cement Co 31
Western Wheeled Scraper Co. 22
Western University of Penna. 3
Westinghouse Air Brake Co. 29
Westinghouse Electric & Mfg Co 7
Westingnouse, Church, Kerr Co 3
Weston, Edmund B 3
Wheeler, Wm 3
Wheeler, W H & Co 3
White, Wm Henry 3
Whittaker Stone Co 22
Wilson, L 25
Witmer, J F 3
Wiley & Sons, John 19
Wilkins & Davison 3
Williams Mfg Co 12
Wilson Brothers & Co 3
Wise & Watson 3
Wood & Co, R D 11
Worcester Polytechnic Institute 3
Worthington, Henry R 13
Wrought Iron Bridge Co. 34
Yaryan Co 7
Young & Sons 19
Youngstown Bridge Co. 34
Youngstown Iron & Steel Roofing Co 35
Young-Brennan Crusher Co. 33

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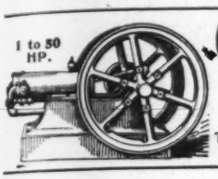

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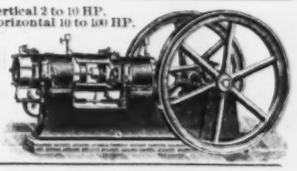

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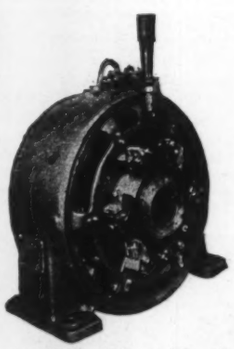

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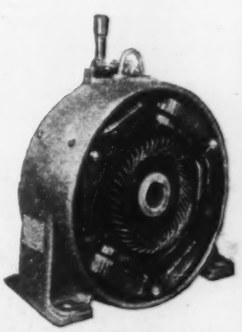

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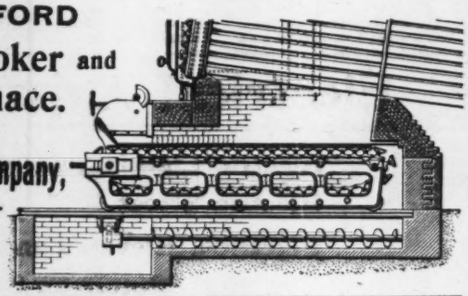

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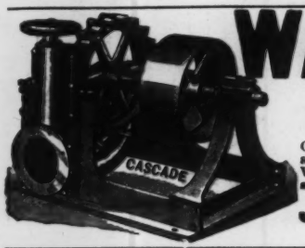

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ADVERTISERS' CLASSIFIED DIRECTORY.

Continued on Page 18.

NOTICE.—This new Advertisers' Classified Directory contains about 410 headings, against 181 in the old directory. More than double the space is required for the new directory and we cannot increase this more at present. We ask each advertiser however to see if his name is placed under the correct headings and to notify us of any mistakes.

Air Brakes.
Westinghouse Air Brake Co., Pittsburg, Pa

Air Compressors.
Allis, Edward P., Co., Milwaukee, Wis
Clayton Air Compressor Works, 26 Cortlandt st, N Y
Deane Steam Pump Co., Holyoke, Mass
Dutton Pneumatic Lock & Eng. Co., 11 B'way, N Y
Fairbanks, Morse & Co, Chicago
Fraser & Chalmers, 153 Fulton st, Chicago
Hall Steam Pump Co., Grant ave, Allegheny, Pa
Holly Mfg. Co., Lockport, N Y
Ingersoll-Sergeant Drill Co., 26 Cortlandt st, N Y
Knowles Steam Pump Works, 96 Liberty st, N Y
Laidlaw-Dunn-Gordon Co., Cincinnati, Ohio
McGowan, John H., Co., Cincinnati, Ohio
McKiernan Drill Co., 120 Liberty st, New York
Norwalk Iron Works, So. Norwalk, Conn
Pneumatic Engineering Co., 100 Broadway, N Y
Rand Drill Co., 100 Broadway, New York
Southwark Foundry & Machine Works, Philadelphia
Sullivan Machinery Co., 54-60 No. Clinton st, Chicago
Weber Gas & Gasoline Engine Co., Kansas City, Mo

Air Hoists.
Pneumatic Engineering Co., 100 Broadway, N Y
Rand Drill Co., 100 Broadway, New York

Air Locks.
Cockburn Barrow & Mach. Co., Jersey City, N J

Air Pumps.
Bair Pumping Engine Co., Philadelphia, Pa
Davidson, M. T., 59 Keap st, Brooklyn, N Y
Dean Bros. Steam Pump Works, Indianapolis, Ind

Aluminum.
Pittsburg Reduction Co., Pittsburg, Pa

Ammeters.
Fort Wayne Electric Corporation, Fort Wayne, Ind
Westinghouse Electric & Mfg. Co , Pittsburg, Pa

Angle Bars.
Continuous Rail Joint Co. of Am., 912 Prudential bldg, Newark, N J

Annealing Boxes.
McNeil, Jas., & Bro., 29th & Railroad sts, Pittsburg, Pa

Anti-Friction Metal.
Hyde Bros. & Co., Pittsburg, Pa

Architects. (see Directory of Engrs. pp. 2 & 3.)

Artesian Wells.
Cole Bros., 102 Fulton st, New York
Cook Well Co., St Louis, Mo
Hydraulic Construction Co., 1 Broadway, New York
Wilson, L., 53 Dearborn st, Chicago

Asphalt Floors.
Atlantic Alcatraz Asphalt Co., 57 East 59th st, N Y
Sicilian Asphalt Paving Co., Times bldg, New York

Asphalt Paving.
Alcatraz Co., 3 West 29th st, New York
Atlantic Alcatraz Asphalt Co., 57 East 59th st, N Y
Barber Asphalt Paving Co., 11 Broadway, New York
Columbia Const'n Co., Syracuse and N. Y. City
International Pavement Co., P. O. Box 835, Balt., Md.
Neuchatel Asphalte Co., Ltd., 265 Broadway, New York
Sicilian Asphalt Paving Co., Times bldg, New York
Warren-Scharf Asphalt Paving Co., 31 Fulton st, N Y

Asphalt Paving Plants.
Cummer, F. D., & Son Co., Cleveland, Ohio

Automatic Stokers.
American Stoker Co., Washington Life bldg, N Y
Cahall Sales Department, Pittsburg, Pa
Playford Stoker Co., Cleveland, Ohio
Westinghouse, Church, Kerr & Co., Pittsburg, Pa

Ballast Unloaders.
Lidgerwood Mfg. Co., 96 Liberty st, N Y
Marion Steam Shovel Co., Marion, Ohio

Barges (Steel).
Schultz Bridge & Iron Co., McKee's Rocks, Pa

Battery (Electric).
Non-Polarizing Dry Battery Co., 625 Broadway, N. Y

Belt Dressing.
Dixon, Jos., Crucible Co., Jersey City, N J

Belt Lacing (Steel).
Bristol Co, Waterbury, Conn

Bicycles.
National Cycle Mfg. Co., Bay City, Mich
Pierce, Geo. N., Co., Buffalo, N Y
Pope Mfg Co, Hartford, Conn
Remington Arms Co., Ilion, N Y

Billets.
Bethlehem Iron Co., South Bethlehem, Pa

Blast Furnaces.
Pollock, W. B., & Co., Youngstown, Ohio
Riter-Conley Co., 32 Water st., Pittsburg, Pa
Standard Boiler & Bridge Co., Bellaire, Ohio

Blasting Supplies.
McKiernan Drill Co., 120 Liberty st, New York

Block Signals.
National Switch & Signal Co., Easton, Pa

Blocks and Sheaves.
American Hoist & Derrick Co., St. Paul, Minn
Boston & Lockport Blk. Co., 144 Commercial st, Boston
Burr Mfg. Co., 828 Soc. for Savings bldg, Cleveland, O
Chisholm & Moore Mfg. Co., Cleveland, Ohio
Hunt, C. W., Co., Richm'd Terrace, W N Brighton, S I

Blowers.
Cornell, J. B. & J. M., 26th st & 11th ave, New York
Connersville Blower Co., Connersville, Ind
Roots, P. H. & F. M., Co., Connersville, Ind

Blue Printing Apparatus.
Keuffel & Esser Co., 127 Fulton st, N Y
Morse Machine Co., Rochester, N Y

Boiler Feeders.
Laidlaw-Dunn-Gordon Co., Cincinnati, Ohio
McGowan, John H., Co , Cincinnati, Ohio

Boiler Fronts and Fittings.
Vulcan Iron Works Co., Toledo, Ohio

Boilers.
Allis, Edward P., Co., Milwaukee, Wis
Bacon, Earle C., 26 Cortlandt st, New York
Cahall Sales Department, Pittsburg, Pa
Carlin's Sons, Thos., Allegheny, Pa
Champion Rivet Co., Cleveland, Ohio
Coho, H. B., & Co. 30 Cortlandt st, New York
Ellicott Machine Co., Baltimore, Md
Enterprise Boiler Co., Youngstown, Ohio
Fairbanks, Morse & Co, Chicago
Forsaith, S. C., & Co., Manchester, N H
Fraser & Chalmers, 153 Fulton st, Chicago
Henion & Hubbell, 61-N. Jefferson st, Chicago
Hodge, E., & Co , East Boston, Mass
Leffel, Jas., & Co., Springfield, Ohio
Lidgerwood Mfg. Co., 96 Liberty st, New York
Morris Machine Works, Baldwinsville, N Y
McNeil, Jas., & Bro., 29th & Railroad sts, Pittsburg
Mundy, J. S., Newark, N J
Pollock, W. B., & Co., Youngstown, Ohio
Sand Drill Co., 100 Broadway, New York
Riter-Conley Co., 32 Water st, Pittsburg, Pa
Springfield Boiler & Mfg. Co., Springfield, Ill
Poole, Robert, Son & Co , Baltimore, Md.
Sharon Boiler Works, Sharon, Pa
Shaw, Willis, N. Y. Life bldg, Chicago, Ill
Standard Boiler & Bridge Co., Bellaire, Ohio
Sullivan Machinery Co., 54 N. Clinton st, Chicago
Variety Iron Works, Cleveland, Ohio

Boilers (Domestic).
Randolph & Clowes, Waterbury, Conn

Boilers (Water Tube).
Abendroth & Root Mfg. Co., 28 Cliff st, New York
Cahall Sales Department, Pittsburg, Pa
Hyde Bros. & Co., Pittsburg, Pa.

Boring Machine.
Snow Flexible Shaft Co., 29th & Callowhill sts, Phila

Borings (Test).
Clark, E. A., Box 2191, Boston, Mass
Cole Bros., 102 Fulton st, New York
Hydraulic Construction Co., 1 Broadway, New York

Brakes.
Brill, J. G., Co., Philadelphia
(see also Air Brakes.)

Brass.
Curry & Co., Meadville, Pa
Merchant & Co., Philadelphia, Pa
Randolph & Clowes, Waterbury, Conn

Brass Rolling Machinery.
Poole, Robert, & Son Co., Baltimore, Md

Brick (Building).
Jackson, John H., Albany, N Y
Higley, J. L., & Co., Canton, Ohio
Purington Paving Brick Co., Galesburg, Ill
Tomkins, Calvin, 120 Liberty st, New York

Brick (Fire).
Monmouth Mining & Mfg. Co., Monmouth, Ill
Park Fire Clay Co., Telephone bldg, Pittsburg, Pa.

Brick (Paving).
Eastern Paving Brick Co., Catskill, N Y
Higley, J. L., & Co., Canton, Ohio
Park Fire Clay Co., Telephone bldg, Pittsburg, Pa.
Purington Paving Brick Co., Galesburg, Ill

Brick (Sewer).
Eastern Paving Brick Co., Catskill, N Y
Higley, J. L., & Co., Canton, Ohio

Bridge Operating Machinery.
Edwards, Jos. & Co., 414 Water st, New York
Townsend Fdry. & Mach. Co., Albany, N Y
Vulcan Iron Works, Chicago

Bridge Railings.
Albree, Chester B., 14 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia, Pa
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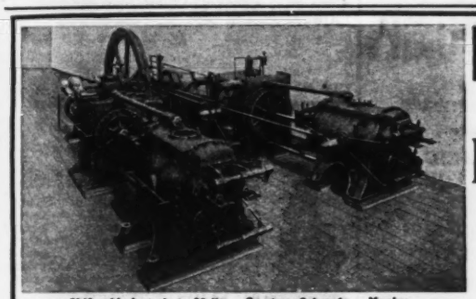

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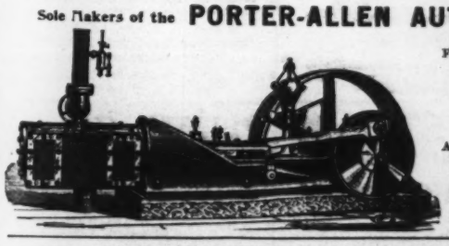

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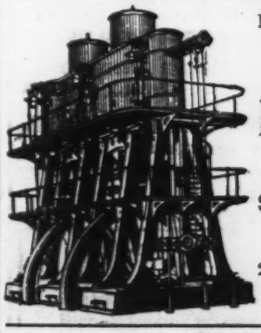

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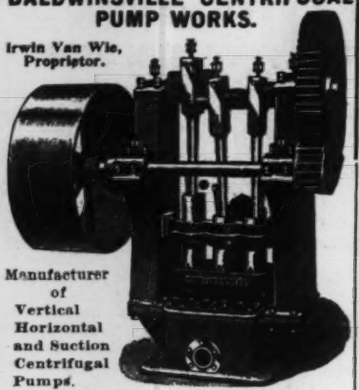

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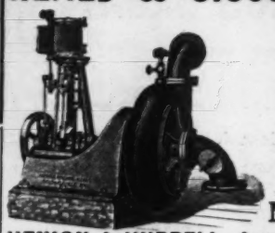

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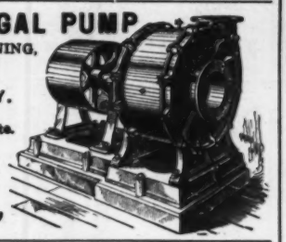

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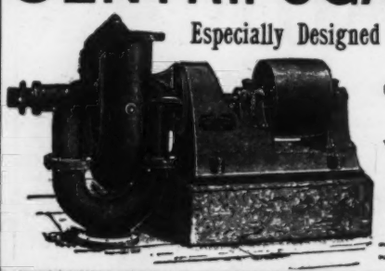

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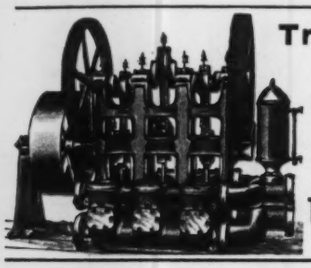

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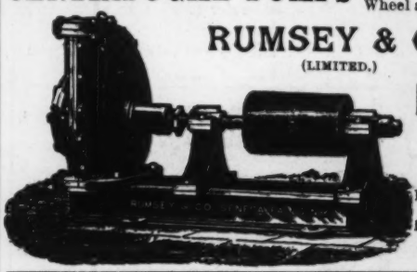

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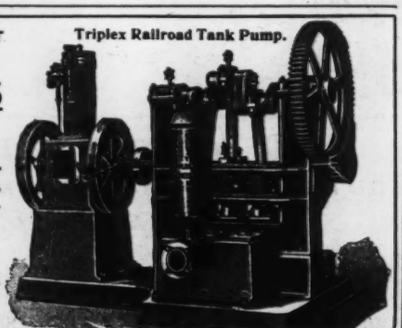

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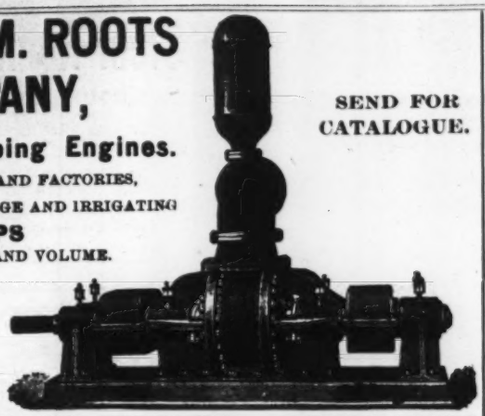

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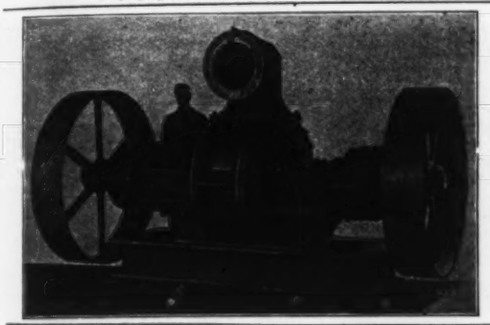

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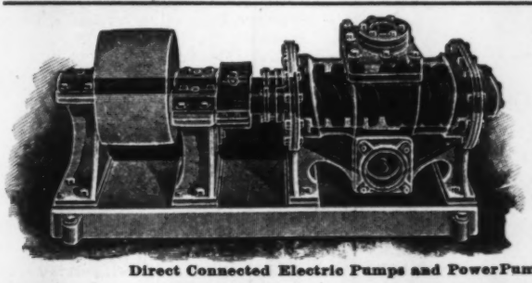

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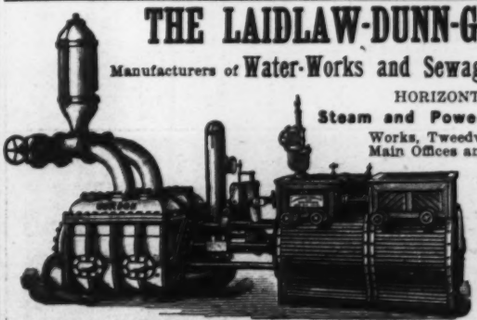

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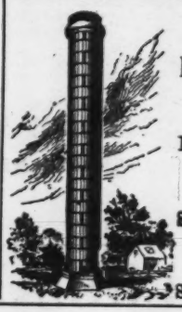

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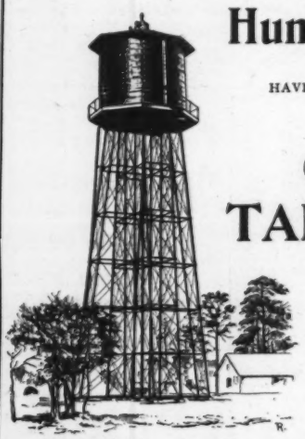

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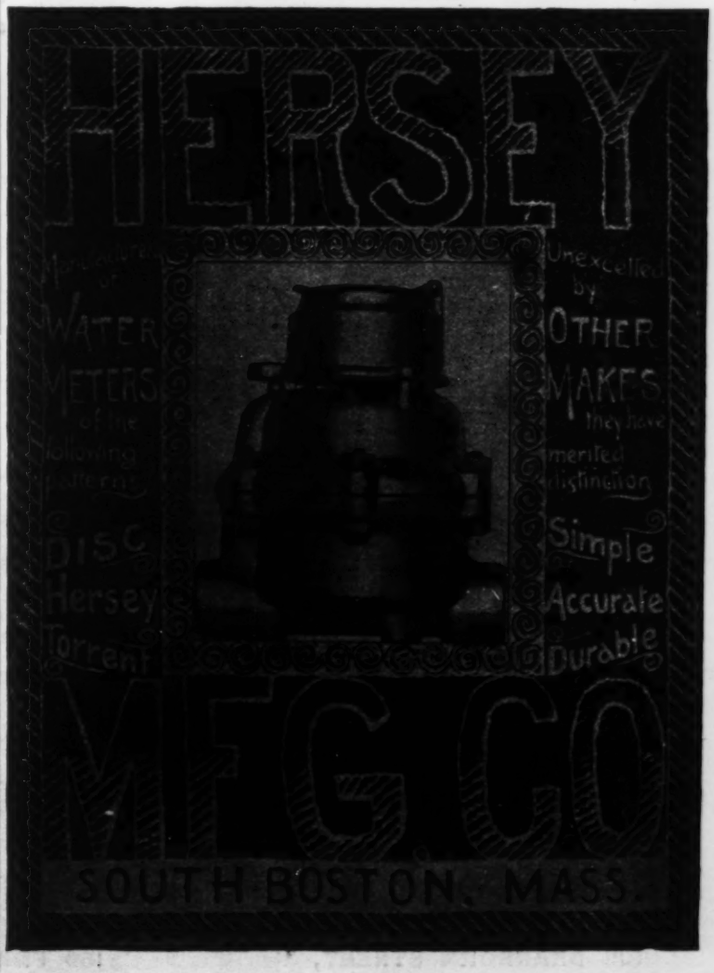

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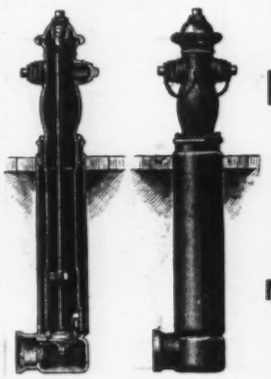

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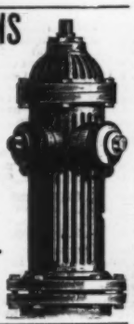

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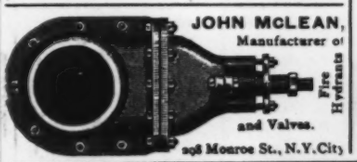

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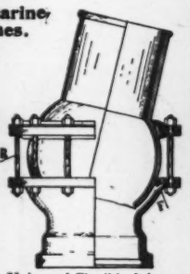

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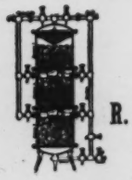

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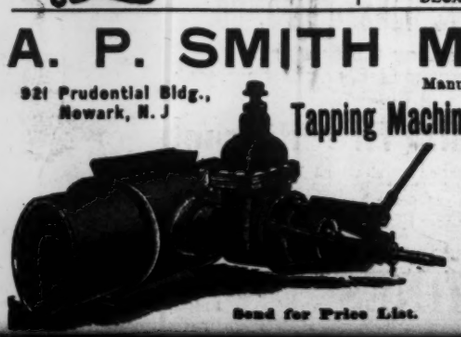

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Continued from Page 8

ADVERTISERS' CLASSIFIED DIRECTORY.

Continued on Page 28.

NOTICE.—This new Advertisers' Classified Directory contains about 410 headings, against 181 in the old directory. More than double the space is required for the new directory and we cannot increase this more at present. We ask each advertiser however to see if his name is placed under the correct headings and to notify us of any mistakes.

Cars (Narrow Gage).
Brill, J. G., Co., Philadelphia, Pa
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Koppel, Arthur, 60 Broad st, New York

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Addyston Pipe & Steel Co., Cincinnati, Ohio
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Donaldson Iron Co., Emaus, Pa
Fox & Engle, 203 Broadway, N Y
McNeil Pipe & Foundry Co., Burlington, N J
Millar, Chas. & Son, Genesee st, Utica, N Y
National Foundry & Pipe Works, Ltd., Scottsdale, Pa
Ohio Pipe Co., Columbus, Ohio
Poole, Robert, & Son Co., Baltimore Md
Reading Foundry Co., Ltd., Reading, Pa
Townsend Foundry & Mach. Co., Albany, N Y
Variety Iron Works, Cleveland, O
Warren Foundry & Machine Co., 180 Broadway, N Y
Weaver, R. T., Co., 2925 N. Broad st, Philadelphia, Pa
(see also Brass; and Street and Sewer Castings.)

Cattle Guards.
Q & C Co., Western Union bldg, Chicago, Ill
Railroad Supply Co., Chicago, Ill

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Ogden, J. Edward, 149 Cedar st, New York

Ceilings (Metal).
Kinnear & Gager Co., Cleveland, Ohio
(see also Fire Proofing.)

Cement (Portland).
Alpha Portland Cement Co., 457 The Bourse, Phila
Alsen's Portland Cement Works, 149 Liberty st, N Y
Atlas Cement Co., 149 Liberty st, New York
Bonneville Cement Co., 261 Broadway, New York
Buckeye Portland Cement Co., Bellefontaine, Ohio
Commercial Wood & Cement Co., 156 Fifth ave, N Y
Commercial Wood & Cement Co., Girard bldg, Phila
Cummings Cement Co., Akron, N Y
Empire Portland Cement Co., Warners, N Y
Glens Falls Portland Cement Co., Glens Falls, N Y
Hall, Chas. W., 26 Cortlandt st, New York
Johnson & Wilson, 45 Broadway, New York
Kelley Island Lime & Transport. Co., Cleveland
Lesley & Trinkle, 22 S. 15th st, Philadelphia, Pa
Newcomer, Geo. M., 66 Maiden Lane, New York
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Bonneville Cement Co., 261 Broadway, New York
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Commercial Wood & Cement Co., Girard bldg, Phila
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Johnson & Wilson, 45 Broadway, New York
Lawrence Cement Co., 1 Broadway, New York
Lawrenceville Cement Co., 26 Cortlandt st, N Y
Lesley & Trinkle, 22 S. 15th st, Philadelphia, Pa
Meacham & Wright, Chamber of Commerce, Chicago
Milwaukee Cement Co., Milwaukee, Wis
N. Y. & Rosendale Cement Co., 280 B'way, New York
Norton, F. O., Cement Co., 92 Broadway, New York
Tomkins, Calvin, 120 Liberty st, New York
Union Akron Cement Co., 141 Erie st, Buffalo, N Y
Western Cement Co., Louisville Ky

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Standard Silica Cement Co., 66 Maiden lane, N Y

Cement Engineers.
Smidth, F. L., & Co., 66 Maiden lane, New York

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Sullivan Machinery Co., 60 N. Clinton st, Chicago, Ill

Chemists.
McKenna, Chas. F., 221 Pearl st., N Y
(see also Laboratories.)

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Ingersoll-Sergeant Drill Co., 26 Cortlandt st, N Y

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Carlin's Sons, Thos., Allegheny, Pa
Calhoun Excavator Co., Unity bldg, Chicago, Ill
Exeter Machine Works, Pittston, Pa
Hunt, C. W., Co., Richm'd Terrace, W N Brighton, S I
King Bridge Co., Cleveland, Ohio
Lambert Hoisting Engine Co., Newark, N J
Lidgerwood Mfg. Co., 96 Liberty st, New York
N. J. Foundry & Machine Co., 26 Cortlandt st, N Y
Stuebner, G. L., 176 Third st, Long Island City, N Y
Vulcan Iron Works Co., Toledo, O
Wagner, J. G., Co., Milwaukee, Wis

Coal Tubs and Buckets.
(see Coal Handling Machinery.)

Coffer Dams and Caissons
Elmira Bridge Co., Elmira, N Y

Colleges (Engineering). (see p. 3).

Compressed Air Tools and Appliances.
Clayton Air Compressor Works, 26 Cortlandt st, N Y

Concentrators.
Gates Iron Works, 650 Elliston ave, Chicago, Ill

Concrete Mixers.
Cockburn Barrow & Mach. Co., Jersey City, N J
Carlin's, Thos., Sons., Allegheny, Pa.
Ellicott Machine Co., Baltimore, Md

Condensers.
Allis, Edward P., Co., Milwaukee, Wis
Blake, Geo. F., Mfg. Co., 92 Liberty st, New York
Cobb, D. McLeod, Huntington and Smith st, Brooklyn
Davidson, M. T., 43 Keap st, Brooklyn, N Y
Dean Bros. Steam Pump Works, Indianapolis, Ind
Deane Steam Pump Co., Holyoke, Mass
Knowles Steam Pump Works, 92 Liberty st, N Y
Worthington, Henry R., 86 Liberty st, New York

Conduits (Pipe).
Blackmer & Post Pipe Co., St. Louis, Mo
Eppinger & Russell Co., 66 Broad st, New York
Michigan Pipe Co., Bay City, Mich

Contractors.
Abbott-Gamble Contracting Co., 620 Chestnut st, Phila
Acme Water Storage & Const. Co., 192 B'way, N Y
Cody, Jos. W., & Co., 120 Broadway, New York
Christie & Lowe, La Salle st, Chicago, Ill
Conley Bros., Donegan Hills, Staten Island, N Y
Clark, E. A., Boston, Mass
Columbia Construction Co., Syracuse, N Y
Cook Well Co., St. Louis, Mo
Crouch Construction Co., 1st Nat. Bank bldg, Chicago
Dutton Pneumatic Lock & Eng. Co., 11 B'way, N Y
Ferguson Contracting Co., 62 Wall st., New York
Gillespie, T. A., Co., Westinghouse bldg, Pittsburg, Pa
Hays Construction Co., Troy, Ohio
Hofeller, E. D., Erie Co. Bank bldg, Buffalo, N Y
Hydraulic Construction Co., 1 Broadway, New York
Jones, Benj. F., 127 E. 125th st, New York
Kearns & Egan, 2343 N. 16th st, Philadelphia, Pa
Kinser, T. W., & Sons, 610 Tremont Bldg., Boston, Mass
Michigan Pipe Co., Bay City, Mich
Mairs & Lewis, 18 Broadway, New York
McMullen, Arthur, & Co., 39 Cedar st, New York
O'Rourke, John F., 44 Broadway, New York
Quigley, R. M., & Co., Rialto bldg, St. Louis, Mo
Rodgers, J. C., & Son, 138th st and Mott ave, N Y
Scoysmith & Co., Mills bldg, New York
Strobel, C. L., Monadnock Block, Chicago Ill
Warren-Scharf Asphalt Paving Co., 31 Fulton st, N Y
Washburn & Washburn, 27 William st, New York
Weaver, R. T., Co., 2925 N. Broad st, Philadelphia
(see also Artesian Wells; Asphalt Paving; Bridges; Dredging; Wharf and Pier Builders.)

Contractors' Insurance.
City Trust & Safe Deposit Co., Philadelphia, Pa

Controllers.
Storey Motor & Tool Co., 212 Ionic st, Phila, Pa
Walker Co., Cleveland, Ohio

Conveyors.
Beatty, M., & Sons, Welland, Ont
Brown Hoisting & Conveying Mach. Co., Cleveland
California Wire Works, San Francisco, Cal
Exeter Machine Co., Pittston, Pa
Hunt, C. W., Co., Richm'd Terrace, W N Brighton, S I
King Bridge Co., Cleveland, Ohio
Lidgerwood Mfg. Co., 96 Liberty st, New York

Conveyors (Trench).
Carson Trench Machine Co., Boston, Mass
Moore Mfg. Co., Buffalo, N Y

Cooling Towers.
Davidson, M. T., 43 Keap st, Brooklyn, N Y
Worthington, Henry R., 86 Liberty st, New York

Copper.
Bourbon Copper & Brass Works, Cincinnati, Ohio
Merchant & Co. Philadelphia, Pa
Randolph & Clowes, Waterbury, Conn

Corporation Cocks.
Mueller, H., Mfg. Co., Decatur, Ill
Pleuger & Henger Mfg. Co., St. Louis, Mo

Cranes.
Am. Hoist & Derrick Co., St. Paul, Minn
Brown Hoisting & Conveying Mach. Co., Cleveland
Bucyrus Co., S. Milwaukee, Wis
Chisholm & Moore Mfg. Co., Cleveland, Ohio
Greenleaf Turntable Co., Indianapolis, Ind
King Bridge Co., Cleveland, Ohio
Marion Steam Shovel Co., Marion, Ohio
Walker Co., Cleveland, Ohio
Wood, R. D., & Co., Philadelphia, Pa

Creosoting.
Am. Wood Preserving Co., 1015 Filbert st, Phila, Pa
Carbolineum Wood Preserving Co., Nashville, Tenn
Eppinger & Russell Co., 66 Broad st, New York
Lehigh Valley Creosoting Co., 11 Broadway, N Y
Michigan Pipe Co., Bay City, Mich
New Orleans Wood Preserving Works, New Orleans
Norfolk Creosoting Co., Norfolk, Va
Old Dominion Creosoting Works, Norfolk, Va
Vanderbilt & Hopkins, 128 Liberty st, New York
West Pascagoula (Miss.) Creosoting Works

Crucibles.
Dixon, Jos., Crucible Co., Jersey City, N J

Derricks and Derrick Fittings.
American Hoist & Derrick Co., St. Paul, Minn
Byers, John F., Machine Co., Ravenna, Ohio
Carlin's, Thos., Sons, Allegheny, Pa
Contractors' Plant & Mfg. Co., 125 Erie st, Buffalo, N Y
Dobbie Foundry & Machine Co., Niagara Falls, N Y
Ellicott Machine Co., Baltimore, Md
Lambert Hoisting Engine Co., Newark, N J
Townsend Fdry. & Mach. Co., Albany, N Y

Differential Hoists.
Boston & Lockport Block Co., Boston, Mass
Burr Mfg. Co., Cleveland, O
Chisholm & Moore Mfg. Co., Cleveland, Ohio

Disinfecting Apparatus.
Sanitary Construction Co., 56 Pine st., New York

Ditching Machinery.
Beatty, M., & Sons, Welland, Ont
Austin, F. C., Mfg. Co., Chicago, Ill
Bucyrus Co., S. Milwaukee, Wis
Marion Steam Shovel Co., Marion, Ohio
Osgood Dredge Co., Albany, N Y
San Francisco Bridge Co., San Francisco, Cal; Seattle, Wash.; and 183 World bldg, New York
Shaw, Willis, M. Y. Life bldg, Chicago
Stuart, B. F., Oberlin, O
Souther, John & Co., 12 Post Office Square, Boston
Toledo Foundry & Machine Co., Toledo, O
Vulcan Iron Works, Chicago
Vulcan Iron Works Co., Toledo, O

Diving Apparatus.
Morse, Andrew J., & Son., 140 Congress st, Boston
Schrader's, A., Son, 32 Rose st, New York

Doors and Door Fittings.
Berlin Iron Bridge Co., East Berlin, Conn.
Kinnear & Gager Co., Columbus, Ohio
N. J. Foundry & Machine Co., 26 Cortlandt st, N Y

Draftsmen's Supplies.
Aloe, A. S., Co., 517 Olive st, St Louis
Frost & Adams Co., 37 Cornhill st, Boston, Mass
Keuffel & Esser Co., 127 Fulton st, New York
Queen & Co., Inc., Philadelphia, Pa
(see also Instruments.)

Drain Tile.
Jackson, John H., Albany, N Y
Monmouth Mining & Mfg. Co., Monmouth, Ill
Purington Paving Brick Co., Galesburg, Ill

Dredging and Dredging Machinery.
Babcock-Lary Dredging Co., 29 Broadway, N Y
Beatty, M., & Sons, Welland, Ont
Bowers, A. B., San Francisco, Cal
Bucyrus Co., S. Milwaukee, Wis
Calhoun Excavator Co., Unity bldg, Chicago, Ill
Deming Co., Salem, Ohio
Edwards, Jos., & Co., 414 Water st, New York
Ellicott Machine Co., Baltimore, Md
Lake City Engineering Co., Erie, Pa
Lawrence Machine Co., Lawrence, Mass
Marion Steam Shovel Co., Marion, Ohio
Morris Machine Works, Baldwinsville, N Y
Mundy, J. S., Newark, N J
N. Y. Dredging Co., World bldg, New York
Osgood Dredge Co., Albany, N Y
Poole, Robert, & Son Co., Baltimore, Md
Ross, P. Sanford, Fuller bldg, Jersey City, N J
San Francisco Bridge Co., San Francisco, Cal
Shaw, Willis, M. Life bldg, Chicago, Ill
Smith, Theo., & Bro., Jersey City, N J
Toledo Foundry & Machine Co., Toledo, Ohio
Vulcan Iron Works Co., Toledo, Ohio

Drilling and Boring Machines (Portable).
Stow Flexible Shaft Co., 26th & Callowhill sts, Phila
(see also Rock Drills.)

Drop Hammers.
Merrill Bros., 467 Kent ave, Brooklyn, N Y

Dry Docks.
Dutton Pneumatic Lock & Eng. Co., 11 B'way, N Y

Dryers (Cement).
Cummer, F. D., & Son Co., Cleveland, O

Dynamite.
Acme Powder Co., Pittsburg, Pa
Kirk, Arthur, & Son, 910 Duquesne Way, Pittsburg

Dynamos.
Coho, C. S., & Co., 30 Cortlandt st, New York
Fort Wayne Electric Corporation, Fort Wayne, Ind
General Electric Co., Schenectady, N Y
Storey Motor & Tool Co., Philadelphia, Pa
Walker Co., Cleveland, Ohio
Westinghouse Electric & Mfg. Co., Pittsburg, Pa

Economizers (Fuel).
American Stoker Co., Washington Life bldg, N Y
Fuel Economizer Co., Matteawan, N Y
Playford Stoker Co., Cleveland, O
Westinghouse, Church, Kerr & Co., Pittsburg, Pa

Electric Conduits. (see Conduits.)

Electric Cranes. (see Cranes.)

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Saves 80 per cent. in Rubber Hose Expense.

Most Perfect Rubber Hose Armor.

By the use of this armor, which can be put on the hose by any ordinary mechanic, two or three-ply hose is made capable of withstanding the highest steam, hydraulic or compressed-air pressure used. It has the durability of steel, with the flexibility of India rubber, and can be made to withstand 5,000 pounds pressure to the square inch.

It prevents bursting, kinking, and mashing of the hose, and, being smooth on the surface, is easily drawn over rough ground. It can be applied to the inside as well as the outside, when desired for suction hose.

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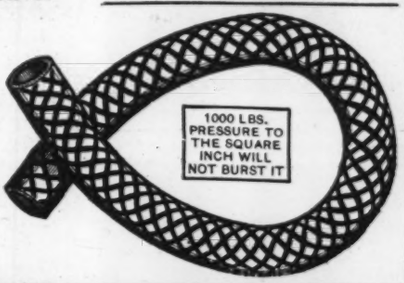

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INVENTORS AND MANUFACTURERS,
254 S. Second Street, Philadelphia.

Manufactured of Steel or Refined Iron. **Black, Galvanized or Asphalted.**
Lengths up to 25 feet. Diameters, 3 to 24 inches.

Each length tested to margin of safety. Great strength combined with lightness. Fittings and connections to suit service required. Do not hesitate to send for Catalogues.

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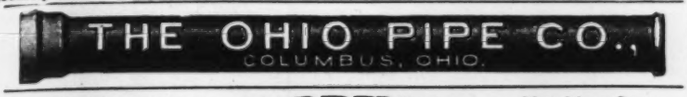

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WARREN FOUNDRY & MACHINE CO.

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3" to 72"

The Addyston Pipe & Steel Co.

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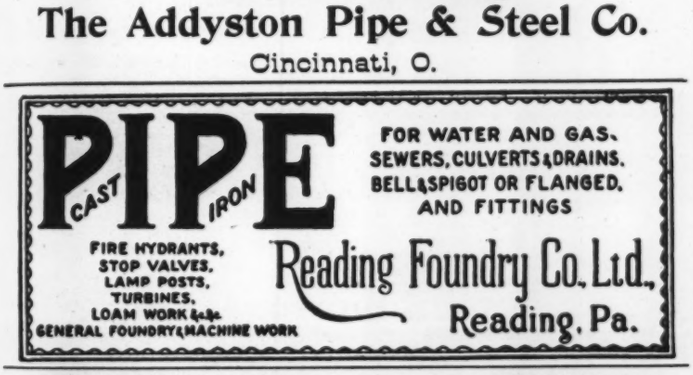

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LOUISVILLE KY.

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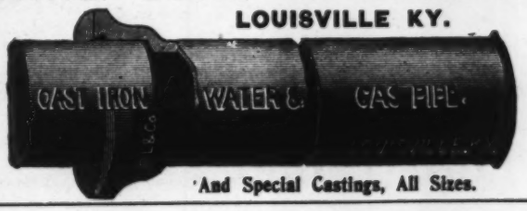

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And Special Castings, All Sizes.

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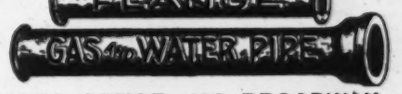

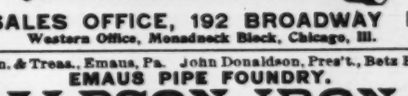

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DONALDSON IRON CO.,

Manufacturers of Cast Iron Pipe, Also Flange Pipe, Lamp Posts, etc., and Special Castings for

WATER

AND GAS.

ALL PIPE CAST VERTICALLY. EMAUS, LEHIGH CO., PA.

A. C. OVERHOLT, Chairman. J. W. RUTH, Treasurer. JAS. D. HILL, Secretary.

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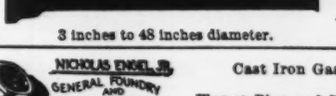
Manufacturers of FLANGE PIPE, BRANCHES AND SPECIAL CASTINGS.



3 inches to 48 inches diameter.

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Cast Iron Gas and Water Pipe.

Flange Pipe and Specials, Fire Hydrants, Valves, Lamp Posts, Steel and Wrought Iron Pipe and Fittings.

Supplies for Water and Gas Works, Railways, Contractors, Engineers, etc.

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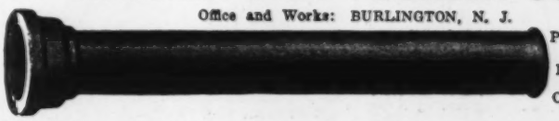
Office and Works: BURLINGTON, N. J.



PHILADELPHIA OFFICE: Land Title Bldg., Broad and Chestnut Streets.

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LARGE CYLINDERS, HEAVY CASTINGS, AND GENERAL FOUNDRY WORK.

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LAKE * SHORE * FOUNDRY.

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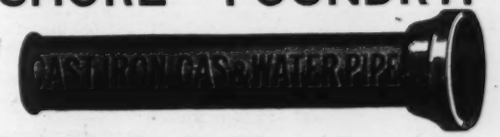

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A Special Appliance for Melting Lead for Water and Gas Works.

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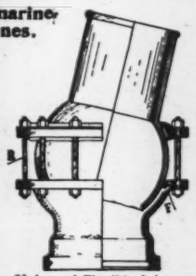

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Our Tapping Machines are designed to make connections under pressure of 1,000 lbs. per square inch, and have been adopted by the U. S. Government and more than 200 of the principal cities of the U. S.

Continued from Page 8

ADVERTISERS' CLASSIFIED DIRECTORY.

Continued on Page 26.

NOTICE.—This new Advertisers' Classified Directory contains about 410 headings, against 181 in the old directory. More than double the space is required for the new directory and we cannot increase this more at present. We ask each advertiser however to see if his name is placed under the correct headings and to notify us of any mistakes.

Cars (Narrow Gage).
Brill, J. G., Co., Philadelphia, Pa
Hunt, C. W., Co., Richm'd Terrace, W N Brighton, S I
Koppel, Arthur, 60 Broad st, New York

Cars (Passenger & Freight).
Brill, J. G., Co., Philadelphia, Pa
Koppel, Arthur, 60 Broad st, New York
Pittsburg Locomotive & Car Co., Pittsburg, Pa

Cars (Wrecking & Ditching).
Bucyrus Co., S. Milwaukee, Wis
Osgood Dredge Co., 27 State st, Albany, N Y
Vulcan Iron Works Co. Toledo Ohio

Castings (Iron).
Addyston Pipe & Steel Co., Cincinnati, Ohio
Builders' Iron Foundry, Providence, R I
Coldwell-Wilcox Co., Newburg, N Y
Cornell, J. B. & J. M., 36th st & 11th ave, N Y
Donaldson Iron Co., Emaus, Pa
Fox & Engle, 253 Broadway, N Y
McNeil Pipe & Foundry Co., Burlington, N J
Millar, Chas., & Son, Genesee st, Utica, N Y
National Foundry & Pipe Works, Ltd., Scottsdale, Pa
Ohio Pipe Co., Columbus, Ohio
Poole, Robert, & Son Co., Baltimore Md
Reading Foundry Co., Ltd., Reading, Pa
Townsend Foundry & Mach. Co., Albany, N Y
Variety Iron Works, Cleveland, O
Warren Foundry & Machine Co., 180 Broadway, N Y
Weaver, R. T., Co., 2925 N. Broad st, Philadelphia, Pa
(see also Brass; and Street and Sewer Castings.)

Cattle Guards.
Q & C Co., Western Union bldg, Chicago, Ill
Railroad Supply Co., Chicago, Ill

Caulking Yarn and Tools.
Ogden, J. Edward, 149 Cedar st, New York

Ceilings (Metal).
Kinnear & Gager Co., Cleveland, Ohio
(see also Fire Proofing.)

Cement (Portland).
Alpha Portland Cement Co., 457 The Bourse, Phila
Alsen's Portland Cement Works, 143 Liberty st, N Y
Atlas Cement Co., 143 Liberty st, New York
Bonneville Cement Co., 261 Broadway, New York
Buckeye Portland Cement Co., Bellefontaine, Ohio
Commercial Wood & Cement Co., 156 Fifth ave, N Y
Commercial Wood & Cement Co., Girard bldg, Phila
Cummings Cement Co., Akron, N Y
Empire Portland Cement Co., Warners, N Y
Glens Falls Portland Cement Co., Glens Falls, N Y
Hall, Chas. W., 26 Cortlandt st, New York
Johnson & Wilson, 45 Broadway, New York
Kelley Island Lime & Transport Co., Cleveland
Lesley & Trinkle, 22 S. 15th st, Philadelphia, Pa
Newcomer, Geo. M., 66 Maiden Lane, New York
Thorn Cement Co., 112 Church st, Buffalo, N Y

Cement (Rosendale).
Bonneville Cement Co., 261 Broadway, New York
Commercial Wood & Cement Co., 156 Fifth av, N Y
Commercial Wood & Cement Co., Girard bldg, Phila
Fort Scott Cement Assn., Kansas City, Mo
Johnson & Wilson, 45 Broadway, New York
Lawrence Cement Co., 1 Broadway, New York
Lawrenceville Cement Co., 26 Cortlandt st, N Y
Lesley & Trinkle, 22 S. 15th st, Philadelphia, Pa
Meacham & Wright, Chamber of Commerce, Chicago
Milwaukee Cement Co., Milwaukee, Wis
N. Y. & Rosendale Cement Co., 260 B'way, New York
Norton, O., Cement Co., 62 Broadway, New York
Tomkins, Calvin, 120 Liberty st, New York
Union Akron Cement Co., 141 Erie st, Buffalo, N Y
Western Cement Co., Louisville Ky

Cement (Sand).
Standard Silica Cement Co., 66 Maiden lane, N Y

Cement Engineers.
Smidth, F. L., & Co., 66 Maiden lane, New York

Cement Kilns and Machinery.
Bradley Pulverizer Co., 92 State st, Boston, Mass
Smidth, F. L., & Co., 66 Maiden lane, N Y
Cummer, F. D., & Son Co., Cleveland, O.

Channelers.
Ingersoll-Sergeant Drill Co., 26 Cortlandt st, N Y
Sullivan Machinery Co., 60 N. Clinton st, Chicago, Ill

Chemists.
McKenna, Chas. F., 221 Pearl st., N Y
(see also Laboratories.)

Coal Cutters.
Ingersoll-Sergeant Drill Co., 26 Cortlandt st, N Y

Coal Dumps.
Sullivan Machinery Co., 60 N. Clinton st, Chicago, Ill

Coal and Ore Handling Machinery.
Bacon, Earle C., 26 Cortlandt st, New York
Brown Hoisting & Conveying Mach. Co., Cleveland
Carlin's Sons, Thos., Allegheny, Pa
Calhoun Excavator Co., Unity bldg, Chicago, Ill
Exeter Machine Works, Pittston, Pa
Hunt, C. W., Co., Richm'd Terrace, W N Brighton, S I
King Bridge Co., Cleveland, Ohio
Lambert Hoisting Engine Co., Newark, N J
Lidgerwood Mfg. Co., 96 Liberty st, New York
N. J. Foundry & Machine Co., 26 Cortlandt st, N Y
Stuebner, G. L., 175 Third st, Long Island City, N Y
Vulcan Iron Works Co., Toledo, O
Wagner, J. G., Co., Milwaukee, Wis

Coal Tubs and Buckets.
(see Coal Handling Machinery.)

Coffer Dams and Caissons
Elmira Bridge Co., Elmira, N Y

Colleges (Engineering). (see p. 3).

Compressed Air Tools and Appliances.
Clayton Air Compressor Works, 26 Cortlandt st, N Y

Concentrators.
Gates Iron Works, 630 Elston ave, Chicago, Ill

Concrete Mixers.
Cockburn Barrow & Mach. Co., Jersey City, N J
Carlin's Sons, Thos., Allegheny, Pa.
Ellicott Machine Co., Baltimore, Md

Condensers.
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Blake, Geo. F., Mfg. Co., 96 Liberty st, New York
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Davidson, M. T., 43 Keap st, Brooklyn, N Y
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Deane Steam Pump Co., Holyoke, Mass
Knowles Steam Pump Works, 96 Liberty st, N Y
Worthington, Henry R., 96 Liberty st, New York

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Blackmer & Post Pipe Co., St. Louis, Mo
Eppinger & Russell Co., 66 Broad st, New York
Michigan Pipe Co., Bay City, Mich

Contractors.
Abbot-Gamble Contracting Co., 620 Chestnut st, Phila
Acme Water Storage & Const. Co., 132 B'way, N Y
Cody, Jos. W., & Co., 120 Broadway, New York
Christie & Lowe, La Salle st, Chicago, Ill
Conley Bros., Dongan Hills, Staten Island, N Y
Clark, E. A., Boston, Mass
Columbia Construction Co., Syracuse, N Y
Cook Well Co., St. Louis, Mo
Crouch Construction Co., 1st Nat. Bank bldg, Chicago
Dutton Pneumatic Lock & Eng. Co., 11 B'way, N Y
Ferguson Contracting Co., 49 Wall st., New York
Gillespie, T. A., Co., Westinghouse bldg, Pittsburg, Pa
Hays Construction Co., Troy, Ohio
Hofeller, E. D., Erie Co. Bank bldg, Buffalo, N Y
Hydraulic Construction Co., 1 Broadway, New York
Jones, Benj. F., 127 E. 125th st, New York
Kearns & Egan, 2343 N. 16th st. Philadelphia, Pa
Kinser, T. W., & Sons, 610 Tremont Bldg., Boston, Mass
Michigan Pipe Co., Bay City, Mich
Maire & Lewis, 13 Broadway, New York
McMullen, Arthur, & Co., 96 Cedar st, New York
O'Rourke, John F., 44 Broadway, New York
Quigley, R. M., & Co., Rialto bldg, St. Louis, Mo
Rodgers, J. C., & Son, 129th st and Mott ave, N Y
Scoysmith & Co., Mills bldg, New York
Strobel, C. L., Monadnock Block, Chicago Ill
Warren-Scharf Asphalt Paving Co., 31 Fulton st, N Y
Washburn & Washburn, 27 William st, New York
Weaver, R. T., Co., 2925 N. Broad st, Philadelphia
(see also Artesian Wells; Asphalt Paving; Bridges; Dredging; Wharf and Pier Builders.)

Contractors' Insurance.
City Trust & Safe Deposit Co., Philadelphia, Pa

Controllers.
Storey Motor & Tool Co., 213 Ionic st. Phila, Pa
Walker Co., Cleveland, Ohio

Conveyors.
Beatty, M., & Sons, Welland, Ont
Brown Hoisting & Conveying Mach. Co., Cleveland
California Wire Works, San Francisco, Cal
Exeter Machine Co., Pittston, Pa
Hunt, C. W., Co., Richm'd Terrace, W N Brighton, S I
King Bridge Co., Cleveland, Ohio
Lidgerwood Mfg. Co., 96 Liberty st, New York

Conveyors (Trench).
Carson Trench Machine Co., Boston, Mass
Moore Mfg. Co., Buffalo, N Y

Cooling Towers.
Davidson, M. T., 43 Keap st, Brooklyn, N Y
Worthington, Henry R., 96 Liberty st, New York

Copper.
Bourbon Copper & Brass Works, Cincinnati, Ohio
Merchant & Co. Philadelphia, Pa
Randolph & Clowes, Waterbury, Conn

Corporation Cocks.
Mueller, H., Mfg. Co., Decatur, Ill
Pleuger & Henger Mfg. Co., St. Louis, Mo

Cranes.
Am. Hoist & Derrick Co., St. Paul, Minn
Brown Hoisting & Conveying Mach. Co., Cleveland
Bucyrus Co., S., Milwaukee, Wis
Chisholm & Moore Mfg. Co., Cleveland, Ohio
Greenleaf Turntable Co., Indianapolis, Ind
King Bridge Co., Cleveland, Ohio
Marion Steam Shovel Co., Marion, Ohio
Walker Co., Cleveland, Ohio
Wood, R. D., & Co., Philadelphia, Pa

Creosoting.
Am. Wood Preserving Co., 1015 Filbert st, Phila, Pa
Carbolineum Wood Preserving Co., Nashville, Tenn
Eppinger & Russell Co., 66 Broad st, New York
Lehigh Valley Creosoting Co., 11 Broadway, N Y
Michigan Pipe Co., Bay City, Mich
New Orleans Wood Preserving Works, New Orleans
Norfolk Creosoting Co., Norfolk, Va.
Old Dominion Creosoting Works, Norfolk, Va
Vanderbilt & Hopkins, 126 Liberty st, New York
West Pascagoula (Miss.) Creosoting Works

Crucibles.
Dixon, Jos., Crucible Co., Jersey City, N J

Derricks and Derrick Fittings.
American Hoist & Derrick Co., St. Paul, Minn
Byers, John F., Machine Co., Ravenna, Ohio
Carlin's, Thos., Sons, Allegheny, Pa
Contractors' Plant & Mfg. Co., 125 Erie st, Buffalo, N Y
Dobbie Foundry & Machine Co., Niagara Falls, N Y
Ellicott Machine Co., Baltimore, Md
Lambert Hoisting Engine Co., Newark, N J
Townsend Fdry. & Mach. Co., Albany, N Y

Differential Hoists.
Boston & Lockport Block Co., Boston, Mass
Burr Mfg. Co., Cleveland, O
Chisholm & Moore Mfg. Co., Cleveland, Ohio

Disinfecting Apparatus.
Sanitary Construction Co., 56 Pine st., New York

Ditching Machinery
Beatty, M., & Sons, Welland, Ont
Austin, F. C., Mfg. Co., Chicago, Ill
Bucyrus Co., S. Milwaukee, Wis
Marion Steam Shovel Co., Marion, Ohio
Osgood Dredge Co., Albany, N Y
San Francisco Bridge Co., San Francisco, Cal; Seattle, Wash.; and 183 World bldg, New York
Shaw, Willis, N. Y. Life bldg, Chicago
Shuart, B. F., Oberlin, O
Souther, John & Co., 12 Post Office Square, Boston
Toledo Foundry & Machine Co., Toledo, O
Vulcan Iron Works, Chicago
Vulcan Iron Works Co., Toledo, O

Diving Apparatus.
Morse, Andrew J., & Son., 140 Congress st, Boston
Schrader's, A., Son, 32 Rose st, New York

Doors and Door Fittings.
Berlin Iron Bridge Co., East Berlin, Conn.
Kinnear & Gager Co., Columbus, Ohio
N. J. Foundry & Machine Co., 26 Cortlandt st, N Y

Draftsmen's Supplies.
Aloe, A. S., Co., 517 Olive st, St Louis
Frost & Adams Co., 37 Cornhill st, Boston, Mass
Keuffel & Esser Co., 127 Fulton st, New York
Queen & Co., Inc., Philadelphia, Pa
(see also Instruments.)

Drain Tile.
Jackson, John H., Albany, N Y
Monmouth Mining & Mfg. Co., Monmouth, Ill
Purington Paving Brick Co., Galesburg, Ill

Dredging and Dredging Machinery.
Babcock-Lary Dredging Co., 29 Broadway, N Y
Beatty, M., & Sons, Welland, Ont
Bowers, A. B., San Francisco, Cal
Bucyrus Co., S. Milwaukee, Wis
Calhoun Excavator Co., Unity bldg, Chicago, Ill
Deming Co., Salem, Ohio
Edwards, Jos., & Co., 414 Water st, New York
Ellicott Machine Co., Baltimore, Md
Lake City Engineering Co., Erie, Pa
Lawrence Machine Co., Lawrence, Mass
Marion Steam Shovel Co., Marion, Ohio
Morris Machine Works, Baldwinsville, N Y
Mundy, J. S., Newark, N J
N. Y. Dredging Co., World bldg, New York
Osgood Dredge Co., Albany, N Y
Poole, Robert, & Son Co., Baltimore, Md
Ross, F. Sanford, Fuller bldg, Jersey City, N J
San Francisco Bridge Co., San Francisco, Cal
Shaw, Willis, N. Y. Life bldg, Chicago, Ill
Smith, Theo., & Bro., Jersey City, N J
Toledo Foundry & Machine Co., Toledo, Ohio
Vulcan Iron Works Co., Toledo, Ohio

Drilling and Boring Machines (Portable).
Stow Flexible Shaft Co., 36th & Callowhill sts, Phila
(see also Rock Drills.)

Drop Hammers.
Merrill Bros., 467 Kent ave, Brooklyn, N Y

Dry Docks.
Dutton Pneumatic Lock & Eng. Co., 11 B'way, N Y

Dryers (Cement).
Cummer, F. D., & Son Co., Cleveland, O

Dynamite.
Acme Powder Co., Pittsburg, Pa
Kirk, Arthur, & Son, 910 Duquesne Way, Pittsburg

Dynamos.
Cobb, H. B., & Co., 20 Cortlandt st, New York
Fort Wayne Electric Corporation, Fort Wayne, Ind
General Electric Co., Schenectady, N Y
Storey Motor & Tool Co., Philadelphia, Pa
Walker Co., Cleveland, Ohio
Westinghouse Electric & Mfg. Co., Pittsburg, Pa

Economizers (Fuel).
American Stoker Co., Washington Life bldg, N Y
Fuel Economizer Co., Matteawan, N Y
Playford Stoker Co., Cleveland, O
Westinghouse, Church, Kerr & Co., Pittsburg, Pa

Electric Conduits. (see Conduits.)

Electric Cranes. (see Cranes.)

METALLIC FLEXIBLE TUBING.

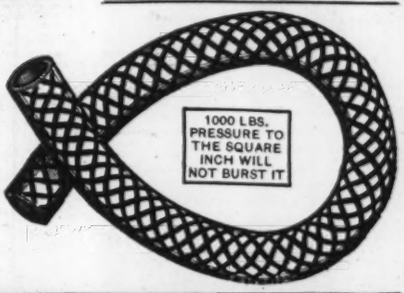
Most Perfect Rubber Hose Armor.

Saves 80 per cent. in Rubber Hose Expense.

By the use of this armor, which can be put on the hose by any ordinary mechanic, two or three-ply hose is made capable of withstanding the highest steam, hydraulic or compressed-air pressure used. It has the durability of steel, with the flexibility of India rubber, and can be made to withstand 5,000 pounds pressure to the square inch.

It prevents bursting, kinking, and mashing of the hose, and, being smooth on the surface, is easily drawn over rough ground. It can be applied to the inside as well as the outside, when desired for suction hose.

Sold by Dealers Generally.



Metallic Flexible Tubing Company,
INVENTORS AND MANUFACTURERS,
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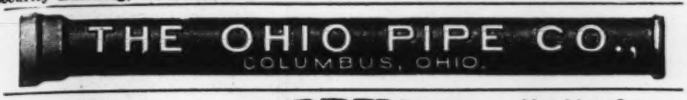
Manufactured of Steel or Refined Iron. Lengths up to 25 feet.
Black, Galvanized or Asphalted. Diameters, 3 to 24 inches.

Each length tested to margin of safety. Great strength combined with lightness. Fittings and connections to suit service required.

ONLY manufacturers under original **ROOT** patents. Name **"ROOT"** stamped on each piece. Apply to large dealers and supply houses anywhere.

Do not hesitate to send for Catalogues.

ABENDROTH & ROOT MANUFACTURING CO., 28 Cliff St., New York.
Security Building, St. Louis, Mo. Monadnock Block, Chicago, Ill.



160 BROADWAY. NEW YORK CITY.

WARREN FOUNDRY & MACHINE CO.

MANUFACTURERS OF

CAST IRON GAS WATER PIPE

ALSO ALL KINDS OF FLANGE PIPE AND SPECIAL CASTINGS.

CAST IRON

3" to 72"

The Addyston Pipe & Steel Co.

Cincinnati, O.

CAST IRON PIPE

FOR WATER AND GAS. SEWERS, CULVERTS & DRAINS. BELL & SPIGOT OR FLANGED. AND FITTINGS

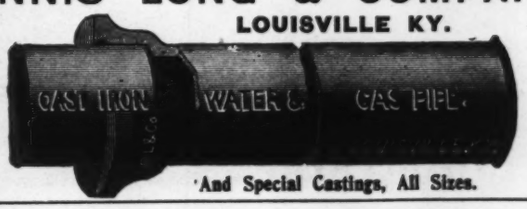
FIRE HYDRANTS, STOP VALVES, LAMP POSTS, TURBINES, LOAM WORK &c. GENERAL FOUNDRY & MACHINE WORK

Reading Foundry Co. Ltd.,
Reading, Pa.

DENNIS LONG & COMPANY,

LOUISVILLE KY.

Flange Pipe.



Culvert Pipe.

And Special Castings, All Sizes.

"GLOBE" SPECIALS, VALVES, ETC.

"GLAMORGAN" FIRE HYDRANT.

M. J. DRUMMOND & CO.

MANUFACTURERS OF

CAST IRON FLANGE GAS & WATER PIPE

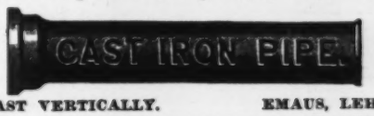
GENERAL SALES OFFICE, 192 BROADWAY NEW YORK.
Western Office, Monadnock Block, Chicago, Ill.

George Ormrod, Man. & Treas., Emaus, Pa. John Donaldson, Pres't., Betz Building, Phila, Pa.

EMAUS PIPE FOUNDRY.

DONALDSON IRON CO.,

Manufacturers of Cast Iron Pipe, Also Flange Pipe, Lamp Posts, etc., and Special Castings for

WATER 

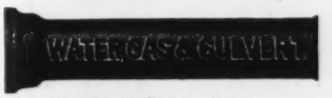
AND GAS.

ALL PIPE CAST VERTICALLY. EMAUS, LEHIGH CO., PA.

A. C. OVERHOLT, Chairman. J. W. RUTH, Treasurer. JAS. D. HILL, Secretary.

NATIONAL FOUNDRY & PIPE WORKS (Limited)

Manufacturers of FLANGE PIPE, BRANCHES AND SPECIAL CASTINGS.



3 inches to 48 inches diameter.

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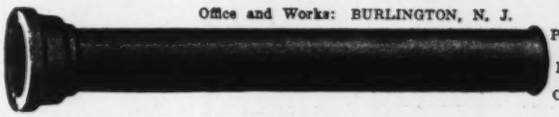
Cast Iron Gas and Water Pipe.

Flange Pipe and Specials, Fire Hydrants, Valves, Lamp Posts, Steel and Wrought Iron Pipe and Fittings.

Supplies for Water and Gas Works, Railways, Contractors, Engineers, etc.

THE McNEAL PIPE & FOUNDRY COMPANY

Office and Works: BURLINGTON, N. J.



PHILADELPHIA OFFICE: Land Title Bldg., Broad and Chestnut Streets.

Cast Iron Pipes and Special Castings for Water and Gas.

FLANGED PIPES AND PIPES WITH FLEXIBLE JOINTS.

LARGE CYLINDERS, HEAVY CASTINGS, AND GENERAL FOUNDRY WORK.

Sewage Disposal in the United States

By GEO. W. RAFTER, M. Am. Soc. C. E., and M. N. BAKER, Ph. B., Associate Editor, "Engineering News."

Containing a full discussion of the principles and description of various methods, and of all the works in operation.

Cloth, 7x10 ins.; 598 pp.; 7 plates, 116 illustrations; price, $6.00.

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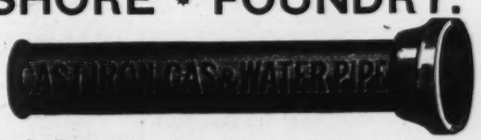
CAST IRON GAS, WATER AND CULVERT PIPE.

D. M. BURKE, Pres. and Treas. C. E. BURKE, Vice-Pres., Supt. G. B. THOMAS, Sec'y

LAKE * SHORE * FOUNDRY.

Manufacturers of ALL SIZES OF



Branch Castings, Car Wheels, Locomotive, Car, Bridge and General Castings.

CLEVELAND, OHIO.

R. D. WOOD & Co.—400 Chestnut Street, Philadelphia: Engineers, Iron Founders, Machinists; Constructors of GAS AND WATER WORKS, Turbines, Water Power Pumps, Loam Castings and Heavy Special Machinery; The MATHEWS' Single and Double-Valve FIRE HYDRANTS, Eddy Valves, "Cutting-in" Specials, and Valve Indicator Posts; Gas Holders, with or without Metal Tanks; Mitchell Scrubbers, Purifiers and Condensers; Cranes, Presses, Lifts, etc. Manufacturers of all kinds and sizes of Cast Iron PIPE

WANTS.

Rates under the heads "Situations Wanted," "Situations Open," or "Miscellaneous," 2 cents per word for the first insertion without display, and 1½ cents per word for each subsequent insertion, the minimum price being 25 cents per insertion. Each number, whether of one or more figures, counted as one word. Payment invariably in advance; no "till forbid" cards allowed; copy of paper containing card, 15 cents additional.

SITUATIONS WANTED

POSITION WANTED.—By young man with technical education and 1 year's experience in general surveying; good instrumentman; salary moderate; will go anywhere. Address H. J. ARMSTRONG, Amherst, Mass. 24-3t

POSITION WANTED as transitman, leveler, or draftsman on structural iron work; experienced; A1 references. Address "A. C.," Engineering News, New York. 24-4t

GRADUATE CIVIL ENGINEER; short experience; topographical surveying; wishes position in field or office. Address "H.," Engineering News, 1636 Monadnock Block, Chicago, Ill. 24-4t

TROY GRADUATE, with engineering and commercial experience, of good address, desires engagement; age, 34. Address "VERITAS," Engineering News, New York. 26-3t

TO WATER BOARDS and Common Councils and Railroad Directors.—Communications in reference to an engagement are desired by a Civil and Hydraulic Engineer of over 10 years' experience; best of references. Address "R. W.," Engineering News, 1636 Monadnock Blk., Chicago, Ill. 25-4t

AN ASSOC. M. AM. SOC. C. E., with technical education and 8 years' practical experience in iron and steel work for buildings, bridges, etc., desires position as an Engineer, Asst. Engineer, Designer, Estimator or Chief Draftsman; first-class references furnished; satisfaction guaranteed; salary moderate. Address "G. R.," Engineering News, New York. 25-2t

AN EXPERIENCED MAN, 8 years, in structural and bridge work, detailing, checking, estimating, wishes position in estimating room, contractor's or architect's office; am willing to detail the work, if required. Address "L. T.," Engineering News, New York. 25-3t

YOUNG GRADUATE ENGINEER with some practical experience wishes position; willing to accept almost anything to get started. Address "H. G.," Engineering News, New York. 25-3t

WANTED.—Position on railroad construction as transitman, leveler or draftsman; have studied civil engineering for two years at Pennsylvania State College, and have had considerable practical experience; will go anywhere; salary secondary consideration; first-class references. Address CHARLES HULL, Conrad, Pa. 25-4t

BRIDGE ENGINEER and Draftsman with 8 years' experience in designing and detailing bridge and structural work, desires situation; experience in charge of office. Address "B," Engineering News, New York. 25-2t

GRADUATE MECHANICAL ENGINEER desires position as draftsman on railroad work; Southern location preferred. Address "VIRGINIA," Engineering News, New York. 26-3t

POSITION WANTED.—By practical railroader, 9 years Master Mechanic, 10 years General Superintendent; excellent record for ability and economy. Address "RAILROADER," Engineering News, New York. 26-3t

POSITION WANTED as instrumentman; 2½ years' experience; 20 years of age; first-class references. Address "333," Engineering News, New York. 26-3t

YOUNG PRACTICAL engineer; experience in reservoirs, concrete masonry, etc. Address "MARCELLUS," Engineering News, New York. 26-2t

TROY GRADUATE, seven years' experience in canal, railroad and city work, desires position; good draftsman. Address "TRIPOD," Engineering News, New York. 26-2t

EXPERIENCED STRUCTURAL draftsman desires responsible position; modern building construction a specialty. Address "COMPETENT," Engineering News. 26-2t

CONCRETE, ELECTRIC RAILROADS and General Contract Work.—E. A. Matthews, of Binghamton, N. Y., who superintended the construction of the new concrete dam and power house at Mechanicsville for The Hudson River Transmission Company, is open for an engagement as superintendent or would take interest in any large piece of work. References given. 26-1t

SITUATIONS OPEN

For rates see head of first column.

Engineering News cannot be responsible for what is stated in advertisements under this head. Applicants must themselves investigate the responsibility of the advertisers.

WANTED.—A Mechanical Draftsman, to work on Staten Island; hours, 8 to 12, 1 to 5, Saturdays, 4. Experienced man, thoroughly familiar with shop practice, able to figure strains, design machines, tools, etc. None but experienced men need apply. Would prefer personal interview. C. W. HUNT COMPANY, West New Brighton, Staten Island, N. Y. 26-1t

MISCELLANEOUS.

For rates see head of first column.

ITALIAN LABORERS supplied to railway companies and contractors, by foreman with good references, who desires position; has had large experience in railway, waterworks, and all kinds of excavation. ANTHONY APLES, 140 Mulberry St., New York city. 25-4t

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ITALIAN LABORERS furnished for all classes of work; best references. THOMAS VISCOUNT, 868 Flora St., Elizabeth, N. J. 22-5t

WANTED.—Second-hand transit and wye-level with New York rod. Must be in good shape and cheap. Address H. E. BARTLETT, Mt. Sterling, Ill. 24-3t

$80,000 WANTED to invest in Cement property; gilt-edge security; 7 per cent. assured; investigation invited. Address "D. & E.," Engineering News, New York. 24-5t

FOR SALE.

"Undisplayed" cards (type like that under "Situations Wanted") will be inserted under this head at the rate of three cents per word for the first insertion and two cents per word for each subsequent insertion, the minimum price being $1.00 per insertion. Each number is reckoned as one word. Payment must be sent with order, invariably in advance, and no "till forbid" advertisements will be allowed. Special contracts will be made for advertising by the year and for "display" cards.

FOR SALE CHEAP.—Second-hand Boilers and Engines. Having installed a large electric plant, we have a large number of boilers in good condition, running from 8 to 100 horse-power; also several engines, 10 to 15 horse-power. As we have no use for them, these will be sold cheap for cash. Call on, or write, VERMONT MARBLE CO., Proctor, Vt. 11-tf

A PERPETUAL WATER FRANCHISE in a Village of 2,000 inhabitants. An income of at least $4,000 a year can be had from the first. City will take $1,800, railroads 1,000, and consumers $1,800. Company fully organized under the franchise with $15,000 capital stock. Company incorporated and organization tax paid. Address "FRANCHISE," care Engineering News, New York. 25-2t

PILE DRIVER FOR SALE.—New; not needed because of change of plans. One Combined Automatic Warrington Pile Driver with cutting-off Saw. Suitable for rapidly driving small and medium sized piles. Mounted on wheels for track. Built by the Vulcan Iron Works, Chicago. Address WARREN-SCHARF ASPHALT PAVING CO., No. 81 Fulton Street, New York. 26-2t

FOR SALE AT A BARGAIN.

One Blake Improved Steam Pump, size L, 14 x14x18 ins.; capacity 600 gallons per minute; Tobin Bronze Pistons; is in first-class order.

One Blake Improved Steam Boiler Feeder or Pressure Pump, size No. 4, 6x3¾x7 ins.; capacity for 100 horse-power boiler; is in first-class order.

One Miller Duplex Steam Pump, size No. 20, 12x8x15 ins.; capacity 600 gallons per minute; Tobin Bronze Pistons; is in first-class order.

One J. H. McGowen Co. Globe Steam Boiler Feeder or Pressure Pump, size No. 730, 4x2½x6 ins.; capacity for 75 horse-power; boiler in first-class order.

One 25 Horse-Power Portable Boiler in good order.

One 30 Horse-Power Portable Boiler in good order.

One 40 Horse-Power Tubular Boiler in good order.

One 45 Horse-Power Tubular Boiler in good order.

One 16x36-in. Slide Valve Engine, 100 horse-power. Brownell make. Pulley 14 ft. diameter; 2-ft. face; all in good order.

For full particulars, address

THE LIMA LOCOMOTIVE & MACHINE CO., 52-tf Lima, O.

FOR SALE.

One Morgan Traveling Crane, 10 tons capacity; span 45 ft 6in.
Two Buffalo Freight Car Scales.
100 Coal Mine Cars.
Air Compressors. Steam Drills, etc.
Anything from a Needle to an Anchor, write us,

National Supply & Metal Co.,
M. E KEELEY, Manager. Scranton, Pa.

FOR SALE OR HIRE.

Two Class "A" Marine Steam Shovels, 1½ yards capacity.

One "Little Giant" Steam Shovel on Traction Wheels 1¼ yards capacity.

One "Little Giant" Steam Shovel on Traction Wheels, 1 yard capacity.

W. J. CARLIN.
380 So. Highland Ave., Pittsburg, Pa.

FOR SALE.—A Number of Second-Hand

Split Switches for 30-lb. Rail,

(3 ft. gauge of track) including 4 ft. or 6 ft Frog, Ground Lever, Switch Points and Connecting Rods. New and Relaying STEEL RAILS BOUGHT AND SOLD.

ROBINSON & ORR,
No. 419 Wood Street, Pittsburgh, Pa.

Relaying Rails for Sale.

65-POUND HIGH-GRADE TEES.
60-POUND HIGH-GRADE TEES.
30-POUND STEEL RELAYING TEES.

HYDE BROTHERS & CO.
Pittsburgh, Pa.

FOR SALE

Pair 18x24 Hoisting Engine.
Pair 20x22 Hoisting Engine.
Two 18x12x24 Blake Pumps rem. linings.
Two 26-inch Centrifugal Dredge Pumps.
Two 15-inch Centrifugal Dredge Pumps.
Three 30-Light T.—H. Arc Dynamos.
One 1,200-Light Standard Alternator; 2,000 V.

MARVIN BRIGGS, 12 Broadway, N. Y.

HOISTING ENGINES.—Steam pumps, engines, boilers, machine tools and general mill machinery, both new and second-hand, a specialty. Write us fully stating just what you want. Over 7,400 machines, new and second-hand, fully described and prices in our new list just issued. S. C. FORSAITH & CO., Machinists and Machinery Dealers, Manchester, N. H.

Transits and Levels for Sale

At about one-half manufacturers' prices.

Engineers' Instrument Exchange,
INSTRUMENTS WANTED. SCRANTON, PA.

RED CEDAR PILING AND POLES

All Lengths. Will Last 50 Years.

J. P. MEREDITH, MEMPHIS, TENN.

Specifications for Railway Stations.

BY CLARK DILLENBECK.

Stone and Brick Passenger Stations.
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Stone and Brick Freight Houses.
Frame Freight Houses.

Each occupying about 32 pages 8x14 inches.

Price, 40 cents each; Full Set, $1.50

The ENGINEERING NEWS Publishing Co.
Chicago. New York.

The Lake and Rail arrangements of the Baltimore and Ohio Railroad for this year are practically the same as were in effect in 1897. Freight for Lake Superior ports is sent by way of the Northern Steamship Company, and the Owen Line is used for the Lake Michigan ports. The Trans-Lake Erie arrangements are with the Detroit Steam Navigation Company, between Cleveland and Detroit, and the Ashley & Dustin Line and the Michigan & Ohio Car Ferry Company between Sandusky and Detroit.

A Year for Americans to Remain in America.

As this seems to be a year for most Americans to stay in the United States it is perhaps appropriate to call attention to America's Great Resorts, particularly those reached directly by the New York Central and its connections. Prominent among which are the Thousand Islands, the Adirondack Mountains, Saratoga, Lake George and Lake Champlain, Niagara Falls, the Berkshire and Litchfield Hills, the Catskill Mountains, and hundreds more equally as good and healthy.

A copy of "America's Great Resorts," will be sent free, postpaid, on receipt of a two-cent stamp, by George H. Daniels, General Passenger Agent, Grand Central Station, New York.

At It Successfully, *SINCE 1890.*

Furnishing Employers with any Kind of Engineering Help they may want—**is our business.**

• Engineering Employment Bureau, No charge to employers. Syracuse, N. Y.

Investors, Fire Underwriters, Engineers, Contractors, Manufacturers, Water-Works and other City Officials:

IF YOU ARE INTERESTED IN

Water-Works, Water Rates, Franchises or, Municipal Ownership

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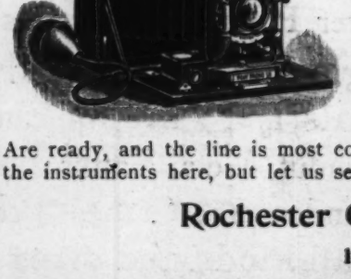

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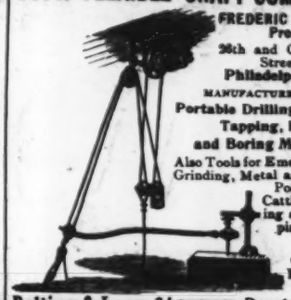

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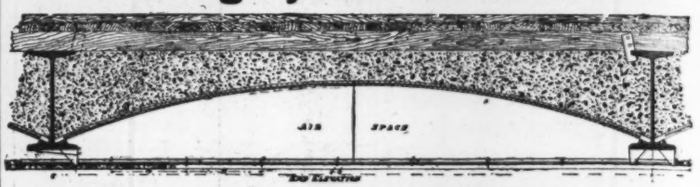

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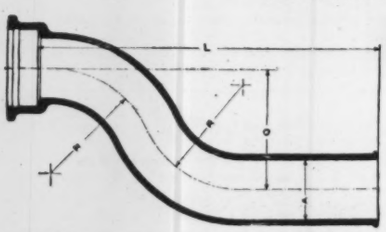

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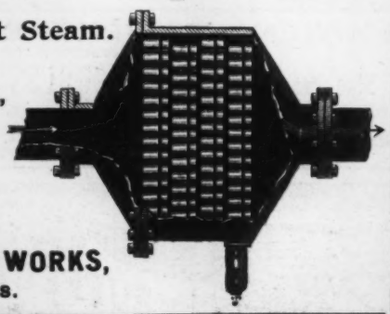

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WATER-WORKS.

WINNIPEG, MAN.

Proposals addressed to W. G. Bell, Chairman Fire, Water and Light Committee, Winnipeg, Man., will be received at the office of the undersigned up to 8:30 o'clock on Monday evening, the 25th day of July, 1898, for the construction and supply of a system of wells and pumping plant for the supply of 4,000,000 gallons of water daily to the reservoirs of the city.

Information and specifications may be obtained from the city engineer.

C. J. BROWN, City Clerk.
H. N. RUTTAN, City Engineer. 22-4t

CITY OF WINNIPEG.

CITY CLERK'S OFFICE, WINNIPEG, MAN., June 8, 1898.

Tenders for the supply of cast-iron pipe, specials, hydrants, etc., for the purpose of a Water-Works System.

Sealed tenders addressed to W. G. Bell, Esq., Chairman of the Committee on Fire, Water and Light, of the City of Winnipeg, Manitoba, for the supply of the cast-iron pipe, specials, hydrants, valves, &c., required for the establishment of a Water-Works System in the City of Winnipeg, will be received at the office of the undersigned up to 8:30 p. m. on Monday, 8th of August, 1898.

Specifications, bills of quantities, etc., may be obtained on application at the office of the City Engineer, Civic Offices, Winnipeg.

The lowest or any tender not necessarily accepted.

C. J. BROWN, City Clerk.
24-3t

WATER-WORKS.

CAMBRIDGE SPRINGS, PA.

Sealed proposals will be received by the Burgess and Council of the Borough of Cambridge Springs, Pa., up to eight o'clock p. m. of Friday, July 8, 1898, for furnishing materials and constructing a system of Water-Works for said Borough. There will be required approximately the following: 456 tons (5½ miles) of cast-iron pipe; 51 fire hydrants; 53 gate valves and boxes; pumping station; impounding well; power pumps and gasoline engines; a steel stand-pipe and foundation, etc. Bids will be received for furnishing any of the materials mentioned above or for constructing the works complete. A certified check, or its equivalent equal to 2 per cent of the amount bid, must accompany each proposal. Plans may be seen and specifications and blank forms of proposals procured at the office of the Clerk of the Council, Geo. L. Wade, Cambridge Springs, Pa., or at the office of the Engineer, J. F. Witmer, Rooms 705 and 707 Ellicott Square, Buffalo, N. Y.

The right is reserved to reject any and all bids.

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GEO. L. WADE, Clerk.
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Cambridge Springs, Pa., June 17, 1898. 25-2t

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Other Proposals see Page XXII-XXIII

SEWER SYSTEM.

SAVANNAH, GA.

Sealed proposals for constructing a complete system of House Drainage in the City of Savannah, Georgia, will be received by the Committee on Drainage, until 12 o'clock noon, Eastern time, September 1st, 1898. The right to reject any or all bids is reserved.

The work will consist approximately on one mile of brick sewer and forty-nine miles of pipe sewer with appurtenances.

Complete plans and specifications can be seen at the office of the City Engineer, Savannah, Georgia.

Address
COMMITTEE ON DRAINAGE,
Care Clerk of Council,
25-10t Savannah, Ga.

WATER MAINS.

MONTGOMERY, ALA.

Bids will be received by City Montgomery, Ala., until July 16th, 12 m., proximo, for the construction of about ten miles of cast-iron water mains, including gates, hydrants, etc., also bids for the material alone, landed here, freight paid. For specifications, address City Engineer. The city reserves the right to reject any and all bids.

R. H. SOMMERVILLE, City Treasurer.
25-3t

LIFT BRIDGE.

NEW YORK STATE CANALS.

NOTICE TO CONTRACTORS.—Office of the Superintendent of Public Works, Albany, N. Y., Thursday, June 23d, 1898.

Pursuant to chapter 32, laws of 1897, sealed proposals will be received by the Superintendent of Public Works, at his office in Albany, N. Y., until Tuesday, July 5, 1898, at 12 o'clock noon, of that day, for the construction of a lift bridge over the Erie Canal at Fitzhugh street, Rochester, N. Y. Plans and specifications may be seen from the date of publication of this notice to the date of receipt of bids, at the office of the Superintendent of Public Works, Albany, N. Y., and at the office of the Assistant Superintendent of Public Works, Thomas Wheeler, Syracuse, N. Y., and at the office of the Assistant Superintendent of Public Works, R. G. Lay, Rochester, N.Y. Every proposal for said work must be accompanied by a draft or certified check upon some good banking institution in the city of New York or Albany, issued by a National or State bank in good credit within the state, payable at sight to the Superintendent of Public Works, for the amount expressed below as required to be deposited with bid for the proposed work. The amount of deposit with bid for the same will be 10 per cent. of the proposal, and will be retained as a part of the security until the completion of the work; the amount of labor bond required on execution of contract will be 35 per cent. of the proposal; the amount of bond for faithful performance of contract, on execution of contract, will be 40 per cent. of the proposal. All proposals for the above work must be addressed to the Superintendent of Public Works, at Albany, N. Y., and must be endorsed on envelope "Proposal for a lift bridge over Erie Canal at Fitzhugh street, Rochester, N. Y." The right is reserved to reject any or all bids.

GEORGE W. ALDRIDGE, Superintendent of Public Works.
25-2t

WATER SUPPLY.

RIDGEWOOD, N. J.

NOTICE TO WATER COMPANIES.—Sealed proposals, based upon specifications to be furnished by the persons submitting the same, will be received by the Board of Village Trustees of the village of Ridgewood, Bergen Co., N. J., at the usual meeting room of said trustees, on Wednesday, the 27th day of July, 1898, at 8 p. m., for the furnishing of a supply of pure and wholesome water to said village.

By order of the Village Trustees of the village of Ridgewood, JAMES CORNELIUS, President; H. G. WARD, Village Clerk. 25-2t

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., June 18, 1898.—Sealed proposals will be received at this office until 2 o'clock p. m. on the 15th day of July, 1898, and then opened for the construction (except heating apparatus and electric wire conduits), of the U. S. Post Office BUILDING at AKRON, OHIO, in accordance with the drawings and specifications, copies of which may be had on application at this office, or the office of the Superintendent at Akron, Ohio. JAMES KNOX TAYLOR, Supervising Architect. 25-2t

PROPOSALS FOR SELF-PROPELLING HYDRAULIC DREDGE.—Mississippi River Commission, 2732 Pine St., St. Louis, Mo., June 21, 1898.—Sealed proposals, in triplicate, for construction and delivery of a self-propelling hydraulic dredge complete with machinery, cabin, floating pipe, etc., will be received here until 12 o'clock noon, standard time, July 22, 1898, and then publicly opened. Information furnished on application. H. E. WATERMAN, Capt, Engrs., Secy. 25-4t

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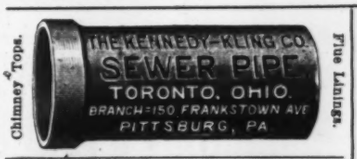
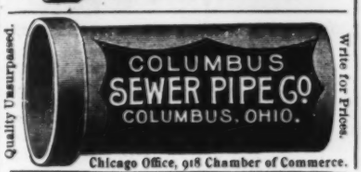




Chicago Office, 918 Chamber of Commerce.

LEVEE WORK.

OFFICE OF ST. FRANCIS LEVEE BOARD, WEST MEMPHIS, ARK., June 27, 1898.

Sealed proposals, in duplicate, for the construction of twenty-four miles of new levee, containing approximately 2,193,000 cubic yards, and extending from Golightly's to and across Hopefield Point, opposite Memphis, will be received at this office until 11 o'clock a. m., August 3d, 1898, and then publicly opened.

Specifications, blank forms and all available information will be furnished on application to Chief Engineer.

The Board reserve the right to reject any and all bids.

JOHN B. DRIVER, President St. Francis Levee Board.
Attest: HUGH R. McVEIGH, Secretary.
26-5t

SEWERS.

PARKERSBURG, W. VA.

Sealed proposals will be received at the office of the City Clerk, Parkersburg, W. Va., until noon, Monday, July 11th, 1898, for furnishing all material, Y's, etc., for laying and constructing the following named sewers and all necessary manholes, flushtanks, and lampholes, according to plans and specifications on file in the office of the City Engineer:

950 ft. 8-in. sewer, Avery Street, between 13th and 16th.
1,530 " 8-in. sewer on Spring and 16th Sts. to St. Mary's Ave.
310 " 8-in. sewer on Spring Street, 16th to 17th St.
1,240 " 8-in. sewer on Charles St. to Swann and on Swann to 13th St.
550 " 8-in. sewer on Swann St., from Charles to Grafton St.
780 " 8-in. sewer on Tefft and Lynn Sts.
750 " 8-in. sewer on Lynn St., between Tefft and 14th Sts.
4,100 " 8-in. sewer on Latrobe St., from Grafton to 14th St.
250 " 8-in. sewer on 13th st., from Latrobe St. east.
3,000 " Trunk sewer:
(a) 3,000 ft. 15-in. tile sewer, or
(b) 2,400 " 15-in. tile sewer and 600 ft. brick sewer in tunnel.

Bids must be made on blanks furnished by the city.

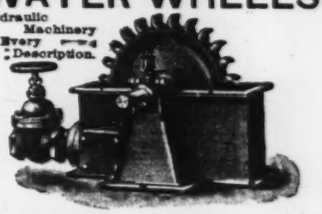
Certified check for $100 will be required with each bid.

The right is reserved to reject any or all bids.

W. T. RITTENHOUSE, City Clerk.
Office of City Clerk, Parkersburg, W. Va., June 23d, 1898. 26-2t

WATER WHEELS

Hydraulic Machinery of Every Description.



American Impulse Wheel Co. of N.Y.
120 LIBERTY STREET.

36-in. CAST-IRON CONDUIT.

PARKERSBURG, W. VA.

Sealed proposals will be received at the office of the City Clerk, Parkersburg, W. Va., until noon Monday, July 11th, 1898, for the construction of about 1,000 ft. of 36-in. cast-iron conduit from the pump well of the City Pump Station to the channel of the Ohio River, also an extension of the 14-in. pumping main from edge of water to the channel, a distance of about 700 ft., all material, labor and appliances necessary, to be furnished by Contractor, except the 14-in. pipe, which will be furnished by the city, and 200 ft. of 36-in. pipe, which is to be taken up and relaid.

Each proposal must be accompanied by a certified check for $200.

The right is reserved to reject any or all bids.

Plans and specifications for the above work are on file in the office of the City Engineer.

W. T. RITTENHOUSE, City Clerk.
Office of the City Clerk, Parkersburg, W. Va., June 23d, 1898. 26-2t

COMMONWEALTH OF MASSACHUSETTS.

HARBOR AND LAND COMMISSIONERS' OFFICE, STATE HOUSE, BOSTON, June 20, 1898.

Sealed proposals, endorsed "Proposals for channel at Osterville," will be received by the Board of Harbor and Land Commissioners at its office, Room 131, State House, Boston, Mass., up to Thursday, July 7, 1898, at 12 o'clock noon, for building two oak pile jetties and excavating a channel through Dead Neck Beach, from South Bay to Nantucket Sound, at Osterville, in the town of Barnstable, Mass.

The jetties are each about 650 feet long, and the excavation required is about 25,000 cubic yards, which may be deposited upon the marsh adjacent.

Proposals are required to be in a gross sum for the whole work, and are to be upon blank forms, which may be obtained at the office of the Commissioners, where plans and specifications for the work may be seen.

The right is reserved to reject any and all proposals, and to waive any defect or informality in any proposal, at the discretion of the Board.

WOODWARD EMERY,
CLINTON WHITE,
CHARLES C. DOTEN,
26-1t Harbor and Land Commissioners.

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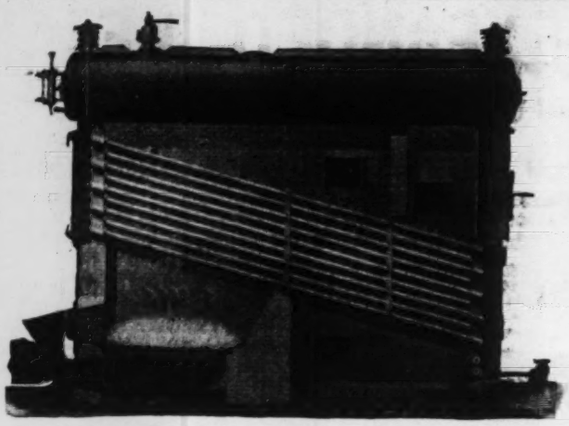

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LIGHTING FIXTURES.

Notice of Reception of Specifications and Proposals for Lighting Fixtures for City Hall at Binghamton, N. Y.

Notice is hereby given that the Common Council of the City of Binghamton will receive up to July 19, 1898, at 7:30 p. m. sealed proposals for furnishing and hanging combination gas and electric lighting fixtures for the new city hall in said city, or such part of said hall as said Council shall determine to equip with lighting fixtures. All proposals must be accompanied with full specifications, drawings and plates of the fixtures, and so far as practicable sample fixtures should be shown. Each bid must be accompanied with a certified check for 10 per cent. the amount of the bid as a guaranty that if the proposal is accepted the party proposing will enter into contract with the city accordingly, and will give a bond in the penalty of five hundred dollars conditioned for the faithful and complete performance of the contract, such bond to have sureties to be approved by the Mayor of the city. The city reserves the right to reject any or all bids.

BURR W. MOSHER,
26-2t City Clerk.

SEWERAGE.

OWOSSO, MICH., June 22, 1898.

Sealed proposals for furnishing material for and constructing pipe sewers will be received up to 2 o'clock Wednesday, July 6, 1898.

Approximate are 922 ft. 30-inch pipe, 655 ft. 24-inch pipe, and 3,635 ft. 8 to 12-inch pipe with accessories.

A certified check for $800 must accompany all bids.

The Board of Public Works reserves the right to reject any and all bids.

For information and specifications address
JOHN L. ASH, City Clerk,
Owosso, Mich.

Or, H. E. RIGGS, Engineer, 613 "The Nasby," Toledo, O. 26-1t

MACADAM ROAD.

EASTON, PA.

Sealed proposals will be received at the office of the Commissioners of Northampton County at Easton, Pa., up to eleven o'clock a. m. Friday, July 8th, for the construction of 6½ miles of macadam road. Plans and specifications may be examined at the above office.

By order of the Commissioners.

H. F. TRUMBORE, Clerk.
June 27th, 1898. 26-1t

ROAD WORK.

LACONIA, N. H., JUNE 28, 1898.

By order of the City Council, sealed proposals, endorsed "Proposals for Building the Weirs Road," will be received by the City Engineer of the City of Laconia, N. H., until 7.30 p. m., Monday, July 18, 1898, at which time said proposals will be submitted, unopened, to the City Council, for furnishing all labor and material for regulating, grading, fencing and building complete about three miles of common earth roadway in said city, extending from Lake St., near the residence of J. F. Moore, along the shore of Long Bay to Endicott St., near the Weirs Bridge. Proposals are asked for the following items separately:

First. Grading, fencing and building complete about two and three-quarter miles of common earth roadway, sixteen feet (16 ft.) wide, including all culverts, bridges, etc., and widening, grading and resin facing about 1,800 ft. of old roadway, now about twelve feet wide.

Second. Grading, fencing and building complete about two and three-quarter miles of common earth roadway, twenty-six feet (26 ft.) wide, including all culverts, bridges, etc., and widening, grading and resin facing about 1,800 feet of old roadway, now about twelve feet wide.

Proposals must be made upon blank forms furnished by the city, and must be accompanied by a certified check, or its equivalent, made payable to the city treasurer in an amount equal to two per cent. (2%) of the amount of the bid; and no bid will be received unless the bidder has looked the work over on the ground.

Plans, profiles and specifications may be seen and blank forms of proposals procured at the office of the Engineer after July 4, 1898.

The right is reserved to reject any and all bids, and it is distinctly understood that proposals are submitted with all rights against the city waived should the council see fit not to build the road at all.

WILLIAM NELSON,
26-2t City Engineer.

IMPROVEMENT OF DELAWARE RIVER. U. S. Engineer Office, 1423 Arch Street, Philadelphia, Pa., June 4, 1898.—Sealed proposals for DREDGING between Bulkhead Bar and Marcus Hook Ice Piers, Delaware River, will be received here until 12 o'clock, noon, July 5, 1898, and then publicly opened. Information furnished on application. C. W. RAYMOND, Lieut.-Col. Engrs. 23-4t

UNDERGROUND CROSSING.

COLONIAL CITY TRACTION CO.,
22 E. STRAND, KINGSTON, N. Y.,

Sealed proposals for furnishing the materials and constructing an Underground Crossing, for the Colonial City Traction Co., at Kingston, N. Y., will be received at the office of the Superintendent until 12 noon of July 9th, 1898.

There will be required about 10,000 cu. yds. of earth excavation, about 550 cu. yds. of concrete, 2,000 cu. yds. of stone masonry, and 1,400 lin. ft. of 12-in. clay pipe sewer, 90 tons of steel, and the construction of an underground station.

Bids must be made on printed forms and must be accompanied by a certified check for $600.00 made payable to the Treas. of the Co. When making bids Contractors must state the shortest time in which they will agree to do the work, and ample bonds will be required for the performance of the work in accordance with the plans and specifications and also to ensure the completion of the work within the time limit of the contract.

Plans may be seen and specifications and blank forms of proposal procured at the office of the Superintendent, 22 East Strand, Kingston, N. Y.

The right to reject any and all bids, or any portion of a bid, or to accept any bid, is reserved.

C. GORDON REEL,
Superintendent and Engineer.
Kingston, N. Y., June 27th, 1898. 26-1t

PAVING.

SCOTTDALE, PA.

Sealed proposals for the grading, curbing and paving of Bridge and Short Streets in the Borough of Scottdale, Pa., will be received by the Secretary of said borough until 7 P. M., Monday, July 18th, 1898.

Approximate Estimate.

Grading	1,198 cu. yds.
Curbing	1,830 lin. ft.
Paving	2,685 sq. yds.

Plans and specifications may be seen at the office of I. D. Evans, Borough Engineer, Scottdale, Pa., to whom all communications for information should be addressed.

A certified check for $200.00 must accompany all bids.

The right is reserved to reject any or all bids.

E. L. RUTHERFORD,
26-2t Borough Secretary.

WATER-WORKS AND ELECTRIC LIGHT PLANT.

MAYOR'S OFFICE,
FITZGERALD, GA., June 25, 1898.

Sealed proposals will be received at this office, in the City of Fitzgerald, Georgia, until 6 o'clock p. m., on the 18th day of July, 1898, for furnishing the material and the labor in the erection of a water system and an electric lighting plant, as per plans and specifications on file in the office of the Mayor.

Bids will also be entertained on furnishing and erection of separate parts of the said plants, as per specifications.

The right is hereby reserved to reject any and all bids.

C. C. GOODNOW,
26-1t Mayor.

U. S. ENGINEER OFFICE, Louisville, Ky., June 28, 1898.—Sealed proposals for construction of masonry of lock walls and abutment for dam of LOCK NO. 8, Kentucky River, Ky., will be received here until 12 o'clock, noon, standard time, July 28, 1898, and then publicly opened. Information furnished on application. J. G. WARREN, Capt., Engrs. 26-4t

U.S. ENGINEERS' OFFICE, Equitable Building, Memphis, Tenn., June 15, 1898.—Sealed proposals for LEVEE CONSTRUCTION in Third District, Improving Mississippi River, involving about 2,321,000 cu. yds. of earth work, will be received here until 1:30 p. m., July 6, 1898, and then publicly opened. Information furnished on application. H. C. NEWCOMER, Capt., Engrs. 24-3t

U. S. ENGINEER OFFICE, Charleston, S. C., July 2, 1898.—Sealed proposals for furnishing and installing ONE ELECTRIC LIGHTING PLANT at Battery Jasper, Sullivan's Island, S. C., will be received here until 12 o'clock, noon, August 1, 1898, and then opened. MAJOR E. H. RUFFNER, Custom House. 26-4t

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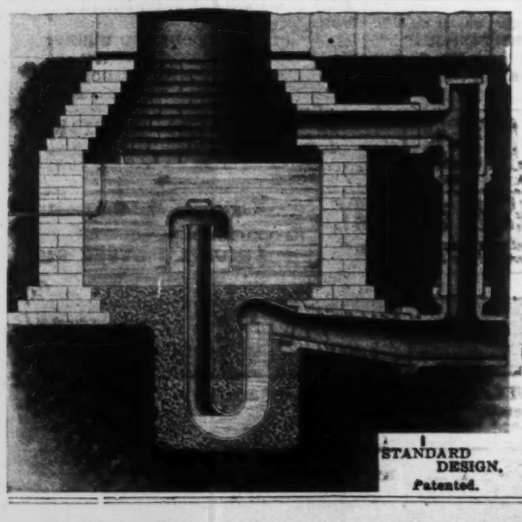

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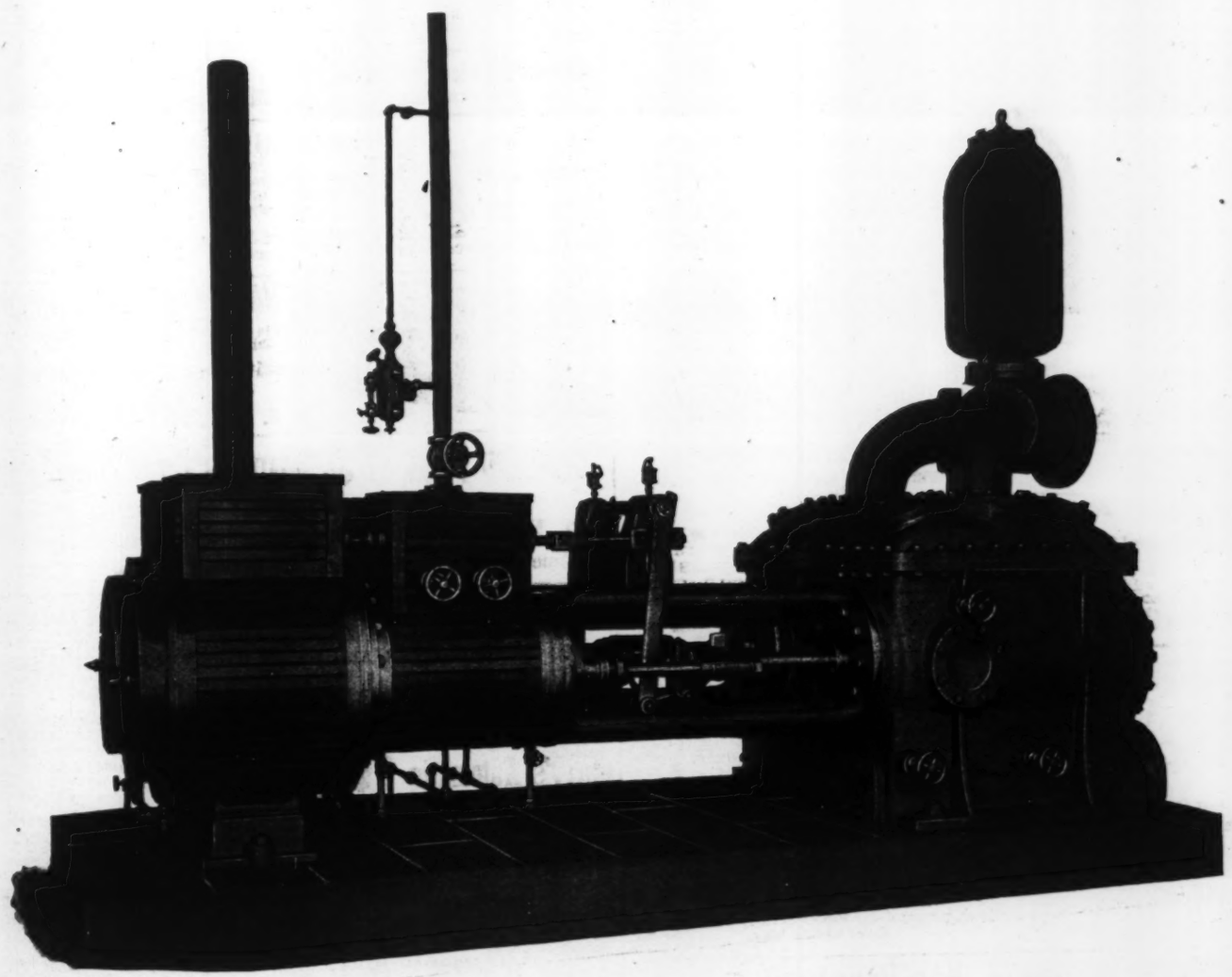

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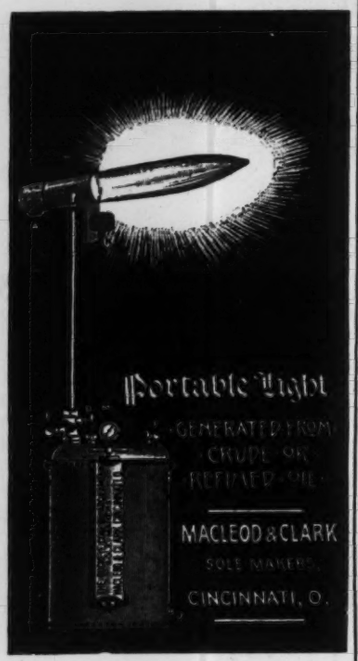

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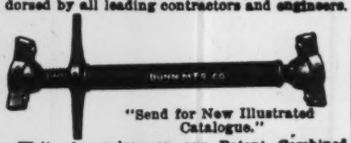

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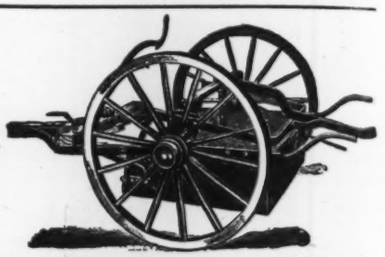

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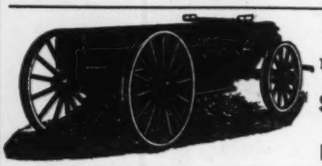

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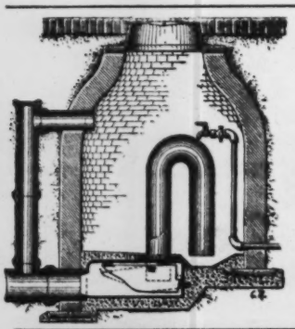

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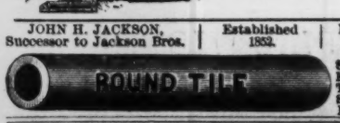

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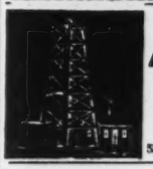

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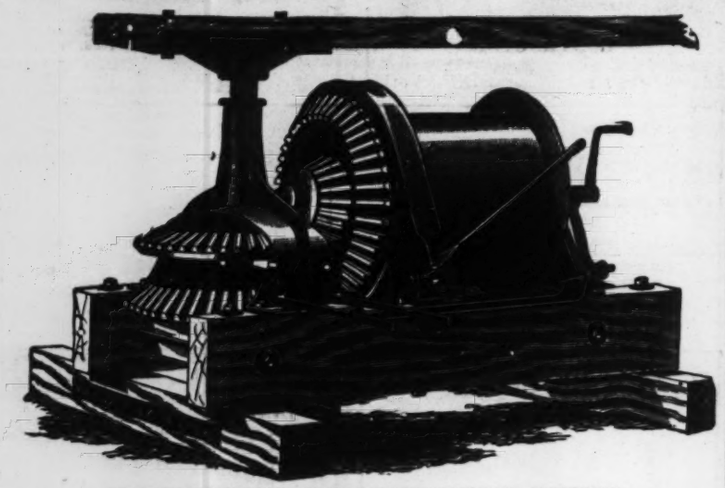

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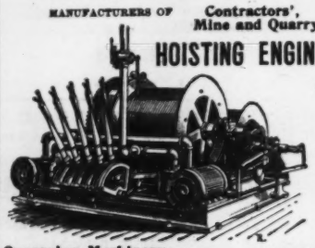

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Continued from Page 16.

ADVERTISERS' CLASSIFIED DIRECTORY.

Continued on Page 28.

NOTICE.—This new Advertisers' Classified Directory contains about 410 headings, against 181 in the old directory. More than double the space is required for the new directory and we cannot increase this more at present. We ask each advertiser however to see if his name is placed under the correct headings and to notify us of any mistakes.

Electric Hoists.
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Lambert Hoisting Engine Co., Newark, N J
Lidgerwood Mfg. Co., 96 Liberty st, New York

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General Electric Co., Schenectady, N Y
Westinghouse Electric & Mfg. Co., Pittsburg Pa

Electric Motors. (see Motors, Electric.)

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Storey Motor & Tool Co., Philadelphia, Pa

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N. J. Foundry & Machine Co., 26 Cortlandt st, N Y

Elevators (Electric).
Sprague Electric Co., New York

Elevators (Rock and Ore).
Gates Iron Works, 660 Ellston ave, Chicago, Ill

Employment Bureau.
Engineering Employment Bureau, Syracuse, N Y

Engineers. (see Directory pages 2 and 3.)

Engines (Automatic Cut-off).
Leffel, Jas., & Co., Springfield, O
Russell & Co., Massillon, O

Engines (Gas and Gasoline).
Backus Water Motor Co., Newark, N J
Erie Gas Engine Co., Erie, Pa
Fairbanks, Morse & Co, Chicago
Foos Gas Engine Co., Springfield, O
Frontier Iron Works, Atwater st, Detroit
Lennox Machine Co., Marshalltown, Iowa
Mietz & Weiss, 128 Mott st, New York
National Meter Co., New York
Otto Gas Engine Works, Philadelphia, Pa
Springfield Gas Engine Co., Springfield, O.
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Weber Gas & Gasoline Engine Co., Kansas City, Mo.
Westinghouse Machine Co., Pittsburg, Pa
Yaryan Co, 41 Park Row, New York

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Bacon, Earle C., 26 Cortlandt st, New York
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Carlin's, Thos., Sons, Allegheny, Pa
Contractors' Plant Mfg. Co., Buffalo, N Y
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Flory, S., Mfg. Co., Bangor, Pa
Forsaith, S. C., & Co., Manchester, N H
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Lidgerwood Mfg. Co., 96 Liberty st, New York
Mundy, J. S., Newark, N J
Shaw, Willis, N. Y. Life bldg, Chicago, Ill
Weber Gas & Gasoline Engine Co., Kansas City, Mo
(see also Electric Hoists.)

Engines (Hydraulic).
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Ross Valve Co., Troy, N Y

Engines (Marine).
Lake City Engineering Co., Erie, Pa
Morris Machine Works, Baldwinsville, N Y
Otto Gas Engine Works, Philadelphia, Pa

Engines (Oil).
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(see also Pumps and Pumping Machinery.)

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Calhoun Excavator Co., Unity bldg, Chicago, Ill
Osgood Dredge Co., Albany, N Y
Souther, John, & Co., Boston, Mass
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Jewell, O. H., Filtration Co., Chicago, Ill
Norwood Engineering Co., Florence, Mass
N. Y. Filter Mfg. Co., 120 Liberty st, New York
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Elliot Frog & Switch Co., East St. Louis, Ill
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Carson Trench Machine Co., Boston, Mass
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Lidgerwood Mfg. Co., 96 Liberty st, New York

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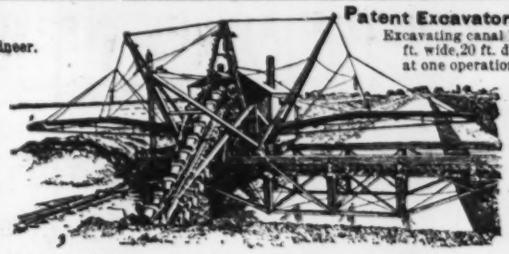

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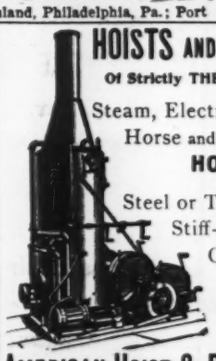

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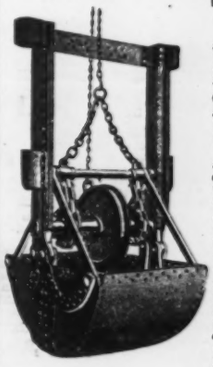

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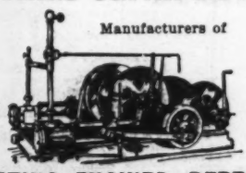

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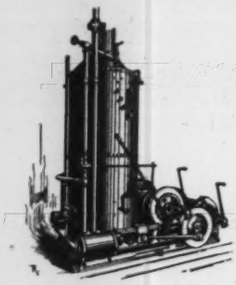
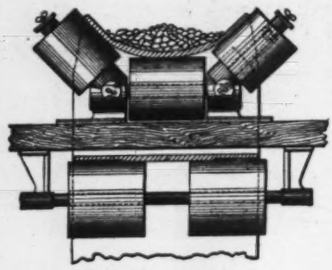


Engine & Boiler.



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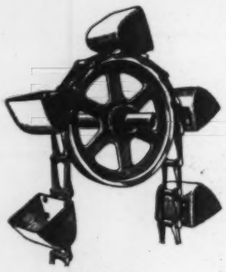

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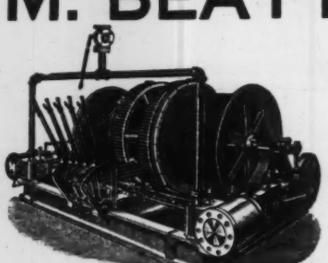

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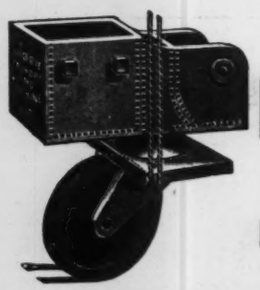

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Continued from Page 26.

ADVERTISERS' CLASSIFIED DIRECTORY.

Continued on Page 30.

NOTICE.—This new Advertisers' Classified Directory contains about 410 headings, against 181 in the old directory. More than double the space is required for the new directory and we cannot increase this more at present. We ask each advertiser however to see if his name is placed under the correct headings and to notify us of any mistakes.

Hydraulic Presses.
Olsen, Tinius, & Co., 500 N. 12th st, Philadelphia, Pa
Watson-Stillman Co., 204 E. 43d st, New York

Hydraulic Rams.
Pelton Water Wheel Co., New York & San Francisc

Ice and Refrigerating Machine.
Goubert Mfg. Co., cor. Cortlandt & Church sts, N Y
Westinghouse Machine Co., Pittsburg, Pa

Injectors.
Lunkenheimer Co., Cincinnati, Ohio

Inspection of Bridges and Rolling Stock.
(see Directory of Engineers, pp. 2 and 3.)

Instrument (Engineering, Surveying, Drafting).
Aloe, A. S. Co., 517 Olive st, St. Louis
Altenedor, Theo., & Sons, 945 Ridge ave, Phila., Pa
Beckman, L., 57 Adams st., Toledo, Ohio
Buff & Berger, 9 Broome st, Boston, Mass
Eckel, F., Beekman Bldg., New York
Engineers' Instrument Exchange, Scranton, Pa
Fauth & Co., Washington, D C
Ferrari, Guido, 911 Vine st, Philadelphia, Pa
Frost & Adams Co., 37 Cornhill, Boston, Mass
Gurley, W. & L. E., Troy, N Y
Heer, Peter, 232 Washington st, Chicago, Ill
Heller & Brightly, Spring Garden st. & Ridge ave, Phila
Keuffel & Esser Co., 127 Fulton st, New York
Knight, F. C., & Co., 403 Locust ave, Philadelphia, Pa
Kolesch & Co., 138 Fulton st, New York
Lietz, A., Co., 622 Sacramento st, San Francisco, Cal
Queen & Co., Inc., Philadelphia, Pa
Schwencke, Kirk & Co., 26 Church st, New York
Seelig, R., 170 E. Madison st, Chicago, Ill
Stackpole & Bro., 39 Fulton st, New York
Ulmer & Hoff, 224 Champlain st, Cleveland, Ohio
Young & Sons, 43 N. 7th st, Philadelphia, Pa

Iron Work (Ornamental).
Allbree, Chester B., 14 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia, Pa
Reiling, Vilsack & Co., Ltd., Pittsburg, Pa

Iron Work (Structural).
(see Structural Steel and Iron Work.)

Jails.
Reiling, Vilsack & Co., Ltd., Pittsburg, Pa

Labor (Italian).
Italian Emigrant Aid Society, 100 Park st, New York
Martino, Pasquale, 258 N. 2d st, Brooklyn, N Y

Laboratories (Chemical and Testing).
Booth, Garrett & Blair, Philadelphia, Pa
McKenna, Chas. F., 221 Pearl st, New York
Olsen, Tinius, & Co., Philadelphia, Pa
Pittsburg Testing Laboratory, Pittsburg, Pa
Riehle Bros. Test & Machine Co., Philadelphia, Pa

Lamp Posts.
Bond Steel Post Co., Adrian, Mich
Donaldson Iron Co., Emaus, Pa

Lamps (Electric).
Fort Wayne Electric Corporation, Fort Wayne, Ind
General Electric Co., Schenectady, N Y

Lead (Pig).
Millar, Chas., & Son, Utica, N Y
Ogden, J. Edward, 147 Cedar st, New York

Lead Furnaces.
McLean, John, 298 Monroe st, New York
Ogden, J. Edward, 147 Cedar st, New York
Virtue, Wm. E., 59 Pennsylvania ave, Newark, N J

Light (Contractors').
Macleod & Clark, 463 E. Front st, Cincinnati
Wells Light Co., 44 Washington st, New York

Lightning Arresters.
Westinghouse Electric & Mfg. Co., Pittsburg, Pa

Lime.
Kelley Island Lime & Transport Co., Cleveland

Locks (Canal Pneumatic).
Dutton Pneumatic Lock & Eng. Co., 11 B'way, N Y

Locomotive Tires.
Latrobe Steel Co., 1200 Girard Bldg., Philadelphia Pa

Locomotives.
Baldwin Locomotive Works, Philadelphia, Pa
Briggs, Marvin, 13 Broadway, New York
Everson, B. M., Pittsburg, Pa
Pittsburg Locomotive and Car Works, Pittsburg, Pa
Porter, H. K., & Co., Pittsburg, Pa

Locomotives (Contractors').
Byers, John F., Machine Co., Ravenna, Ohio
Porter, H. K., & Co., Pittsburg, Pa

Locomotives (Electric).
Baldwin Locomotive Works, Philadelphia, Pa
General Electric Co., Schenectady, N Y
Porter, H. K., & Co., Pittsburg, Pa
Walker Co., Cleveland, Ohio
Westinghouse Electric & Mfg. Co., Pittsburg, Pa

Locomotives (Mining).
Westinghouse Electric & Mfg. Co., Pittsburg, Pa
Porter, H. K., & Co., Pittsburg, Pa

Locomotives (Passenger).
Baldwin Locomotive Works, Philadelphia, Pa
Pittsburg Locomotive & Car Works, Pittsburg, Pa

Logging Machinery.
California Wire Works, San Francisco, Cal
Lidgerwood Mfg. Co., 96 Liberty st, N Y
Marion Steam Shovel Co., Marion, Ohio

Lubricants.
Dixon, Jos. Crucible Co., Jersey City, N J

Lubricators.
Lunkenheimer Co., Cincinnati, Ohio

Lumber (Creosoted).
Lehigh Valley Creosoting Co., 1 Broadway, New York
Norfolk Creosoting Co., Norfolk, Va.
West Pascagoula (Miss.) Creosoting Works
(see also Creosoting.)

Lumber (Dock).
Jones, Benj. F., 147 E. 125th st, New York

Lumber (Yellow Pine).
Vanderbilt & Hopkins, 126 Liberty st, New York

Machine Tools.
Forsaith, S. C., Machine Co., Manchester, N H

Machinery (Second Hand).
Briggs, Marvin, 13 Broadway, New York
Carlin's, Thos., Sons, Allegheny, Pa
Dailey, John D., Harlem River & Third ave, New York
Maslins, John, & Son, 163 Front st, Jersey City, N J
National Supply & Metal Co., Scranton, Pa

Mail Chutes.
Cutler Mfg. Co., Rochester, N Y

Manholes and Covers.
Curry & Co., Meadville, Pa
Greger Engineering Co., 315 N. Broad st, Philadelphia
Thompson, J., & Co., Philadelphia, Pa
Townsend Foundry & Mach. Co., Albany, N Y
(see also Castings.)

Mechanical Stokers (see Automatic Stokers).

Metal Lath.
Central Expanded Metal Co., Pittsburg, Pa
Eastern Expanded Metal Co., Boston, Mass
Expanded Metal Fireproofing Co., Chicago, Ill
Merritt & Co., Philadelphia, Pa
N. Y. Expanded Metal Co., New York
Northwestern Expanded Metal Co., Chicago, Ill
Manhattan Concrete Co., New York
Southern Expanded Metal Co., Washington, D C
Youngstown Iron & Steel Roofing Co., Youngstown, O

Motor and Service Boxes.
Buffalo Meter Co., Buffalo, N Y

Meters (Current).
Buff & Berger, 9 Broome st, Boston, Mass

Meters (Electric).
Fort Wayne Electric Corporation, Fort Wayne, Ind
General Electric Co., Schenectady, N Y
Westinghouse Electric & Mfg. Co., Pittsburg, Pa

Meters (Fuel Oil).
Buffalo Meter Co., Buffalo, N Y
National Meter Co., New York

Meters (Water).
Builders' Iron Foundry, Providence, R I
Buffalo Meter Co., Buffalo, N Y
Hersey Mfg. Co., South Boston, Mass
National Meter Co., 118 Chambers st, New York
Neptune Meter Co., 253 Broadway, New York
Thomson Meter Co., 79 Washington st, Brooklyn, N Y
Worthington, Henry R., 96 Liberty st, New York

Mill Equipments.
General Electric Co., Schenectady, N Y

Mining Machinery.
Allis, Edward P., Co., Milwaukee, Wis
American Diamond Rock Drill Co., 120 Liberty st, N Y
Bradley Pulveriser Co., 32 State st, Boston, Mass
Bucyrus Co., South Milwaukee, Wis
California Wire Works, San Francisco, Cal
Fraser & Chalmers, 153 Fulton st, Chicago
Gates Iron Works, 650 Ellston ave, Chicago, Ill
General Electric Co., Schenectady, N Y
Lidgerwood Mfg. Co., 96 Liberty st, New York
Marion Steam Shovel Co., Marion, Ohio
Rand Drill Co., 100 Broadway, New York
Sullivan Machinery Co., 60 N. Clinton st, Chicago, Ill
Weber Gas & Gasoline Engine Co., Kansas City, Mo

Motors (Electric).
Coho, H. B., & Co., 30 Cortlandt st, New York
Ellicott Machine Co., Baltimore, Md
Fort Wayne Electric Corporation, Fort Wayne, Ind
General Electric Co., Schenectady, N Y
Storey Motor & Tool Co., 212 Ionic st., Philadelphia
Walker Co., Cleveland, Ohio
Westinghouse Electric & Mfg. Co., Pittsburg, Pa

Motors (Water).
Backus Water Motor Co., Newark, N J
Worthington, Henry R., 96 Liberty st, N Y
Poole, Robt. & Son Co., Baltimore, Md
(see also Turbines.)

Narrow Gage Railway Material.
Brill Co., J. G., Philadelphia, Pa
Hunt, C. W., Co., Richm'd Terrace, W N Brighton, S I
Koppel, Arthur, 78-80 Broad st, New York

Non-Conducting Covering.
U. S. Mineral Wool Co., 2 Cortlandt st, New York

Oil Cups.
Lunkenheimer Co., Cincinnati, Ohio

Oil Separators.
Exeter Machine Co., Pittston, Pa
Hodge, E., & Co., East Boston, Mass

Oil Mill Machinery.
Stilwell-Bierce & Smith-Vaile Co., Dayton, Ohio

Ore Handling Machinery.
(see Coal and Ore Handling Machinery.)

Paints.
Atlantic Alcatras Asphalt Co., 57 E. 59th st, N Y
Carbolineum Wood Preserving Co., Nashville, Tenn
Detroit Graphite Mfg. Co., Detroit, Mich
Dixon, Jos., Crucible Co., Jersey City, N J
Goheen Mfg. Co., Canton, Ohio
Patterson-Sargent Co., Cleveland, Ohio
Rinald Bros., Philadelphia Pa
Sicilian Asphalt Paving Co., Times bldg, New York
Smith, Edward, & Co., 45 Broadway, New York
Suydam, M. B., & Co., Pittsburg, Pa

Patent Solicitors.
Rosenbaum, Wm. A., Times bldg, New York

Paving Blocks (Stone).
Booth Bros. & Hurricane Is. Granite Co. 207 B'way, NY

Paving Blocks (Wood).
Lehigh Valley Creosoting Co., 1 Broadway, N Y
Michigan Pipe Co., Bay City, Mich

Paving Brick (see Brick).

Pig Iron Breakers.
Blake, Theo. A., New Haven, Conn

Pile Driving Machinery.
American Hoist & Derrick Co., St. Paul, Minn
Beatty, M., & Sons, Welland, Ont
Bucyrus Co., South Milwaukee, Wis
Carlin's, Thos., Sons, Allegheny, Pa
Contractors' Plant Mfg. Co., Buffalo, N Y
Ellicott Machine Co., Baltimore, Md
Jones, Benj. F., 147 E. 125th st, New York
Lidgerwood Mfg. Co., 96 Liberty st, New York
Mundy, J. S., Newark, N J
Toledo Foundry & Machine Co., Toledo, Ohio
Vulcan Iron Works, Chicago, Ill
Vulcan Iron Works Co., Toledo, Ohio

Pile Hammers.
Carlin's, Thos., Sons, Allegheny, Pa
Cram, R. J. & A. B., 26 W. Hancock ave, Detroit
Vulcan Iron Works, Chicago, Ill

Piling.
Eppinger & Russell Co., 66 Broad st, New York
Meredith, J. P., Memphis, Tenn
Norfolk, Creosoting Co., Norfolk, Va
Wakefield Sheet Piling Co., Bookery bldg, Chicago

Pipe (Cast Iron).
Addyston Pipe & Steel Co., Cincinnati, Ohio
Buffalo Cast Iron Pipe Co., Buffalo, N Y
Builders Iron Foundry, Providence, R I
Byers, John F., Machine Co., Ravenna, Ohio
Donaldson Iron Co., Emaus, Pa
Drummond, M. J., 120 Broadway, New York
Fox & Engel, 258 Broadway, New York
Lake Shore Foundry, Cleveland, Ohio
Long, Dennis, & Co., Louisville, Ky
McNeal Pipe & Foundry Co., Burlington, N J
Millar, Chas., & Son, Utica, N Y
National Foundry & Pipe Works, Scottsdale, Pa
Ohio Pipe Co., Columbus, Ohio
Reading Foundry Co., Ltd., Reading, Pa
Shaw, Willis, N. Y. Life Building Chicago, Ill
Warren Foundry & Machine Co., 120 Broadway, N Y
Wood, R. D., & Co., Philadelphia, Pa

Pipe (Culvert).
Addyston Pipe & Steel Co., Cincinnati, Ohio
Blackmer & Post Pipe Co., St. Louis, Mo
Buffalo Cast Iron Pipe Co., Buffalo, N Y
Monmouth Mining & Mfg. Co., Monmouth, Ill

Pipe (Lead).
Millar, Chas., & Son, Utica, N Y

Pipe (Riveted Steel).
Gillespie, T. A., & Co., Pittsburg, Pa
McNeil, Jas., & Bro., 29th & Railroad sts, Pittsburg, Pa
Pelton Water Wheel Co., New York & San Francisco
Pollock, W. B. & Co., Youngstown, Ohio
San Francisco Bridge Co., San Francisco, Cal
Springfield Boiler & Mfg. Co., Springfield, Ill

Pipe (Spiral Riveted).
Abendroth & Root Mfg. Co., 28 Cliff st, New York

Pipe (Vitrified Clay).
Blackmer & Post Pipe Co., St. Louis, Mo
Columbus Sewer Pipe Co., Columbus, Ohio
Jackson, John H., Albany, N Y
Kennedy-Kling Co., Pittsburg, Pa
Millar, Chas., & Son, Utica, N Y
Monmouth Mining & Mfg. Co., Monmouth, Ill
Sharon Clay Mfg. Co., Sharon, Pa

Pipe (Wooden).
Michigan Pipe Co., Bay City, Mich

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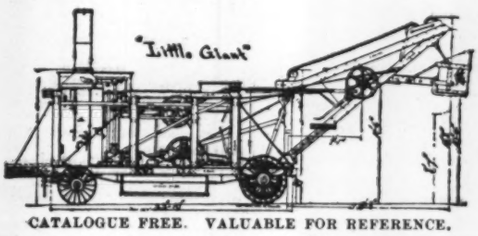

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WE ALSO MANUFACTURE

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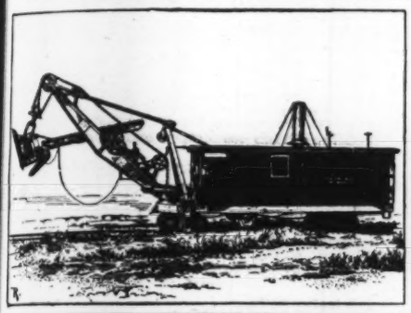

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DREDGING MACHINES,	More than 20 sizes in all types. Dippers, Elevator, Hydraulic, to suit any requirements.
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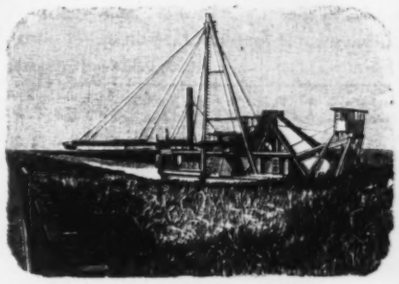
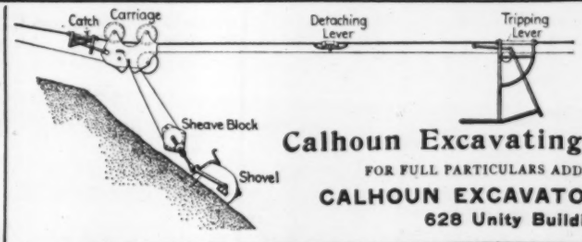


A. B. BOWERS, Contractor, Inventor, Engineer.

For particulars see Large Advertisement, last inserted Dec 16, 1897

Owner of Patents covering All Practical Hydraulic Dredging Apparatus.



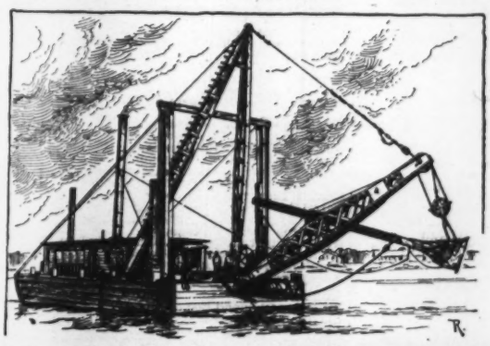
Calhoun Excavating System

FOR FULL PARTICULARS ADDRESS

CALHOUN EXCAVATOR CO.,

628 Unity Building, Chicago.

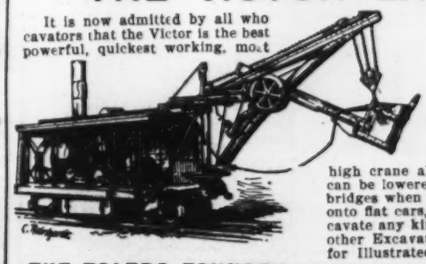
OSGOOD DREDGE COMPANY,



Dredges,
Ditching Machines,
Derrick Cars,
Excavators.

37 STATE STREET
ALBANY, N. Y.

THE VICTOR EXCAVATOR.



It is now admitted by all who have used the different kinds of Excavators that the Victor is the best one on the market. It is the most powerful, quickest working, most durable, best proportioned, easiest handled, fewest parts, least likely to get out of order, and therefore the least expense to keep up, and the cheapest, everything considered.

Its construction is simplified by patented devices which avoid all complications. It has the best record of any Excavator in the country. Its high crane allows it to dig 7 ft. below grade and can be lowered down in thirty minutes to pass low bridges when running over the road. It has loaded onto flat cars, 3,120 yards in 10 hours, and can excavate any kind of material that can be dug by any other Excavator ever built, and more of it. Send for Illustrated Catalogue.

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Columbia

Bevel-Gear Chainless Bicycles.

Price $125 to all alike.

This work has been in the hands of the most expert cycle engineers in the profession and we have succeeded in building a bicycle that everyone who has ridden admits is a better hill climber than any chain wheel yet made.

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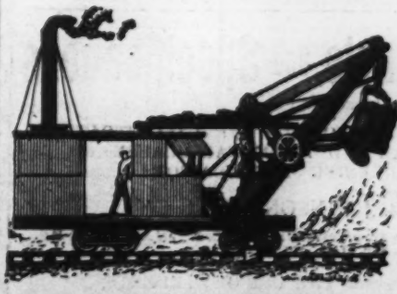
12 Post Office Square, Boston, Mass., U. S. A.

STANDARD GRAVEL AND HARD PAN EXCAVATORS



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This Company has the finest bed of shale, the largest capacity, and makes the best paving brick in the United States. The annual output of the Company would pave a roadway nine feet wide over 400 miles in length.

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Annual Output, Sixty Million.

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Crescent Pavement Unexcelled.

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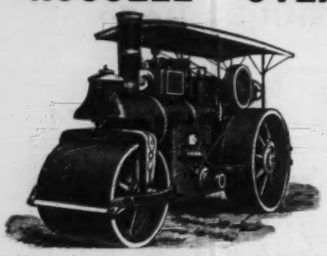

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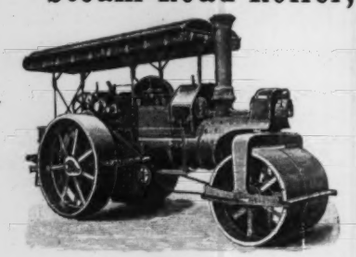

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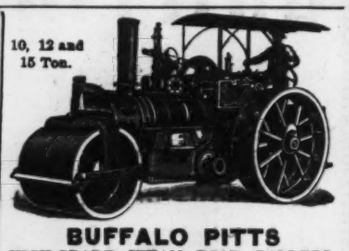

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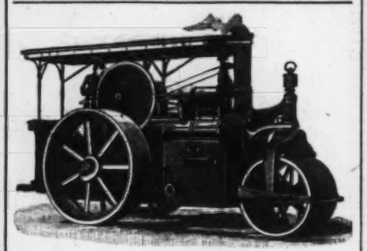

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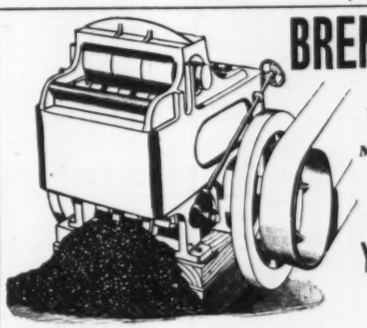

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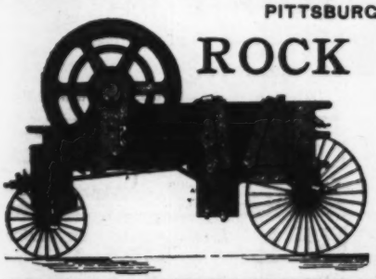

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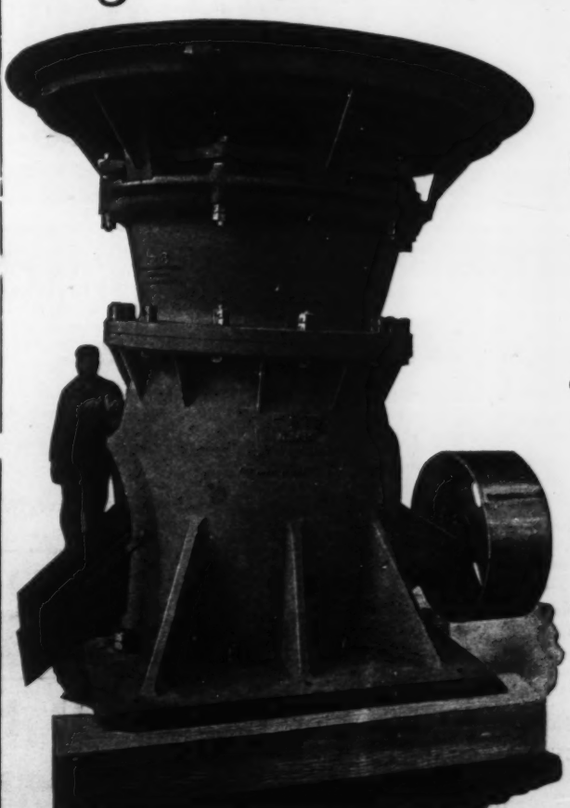

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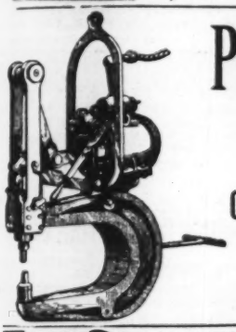

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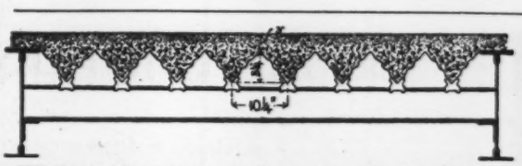

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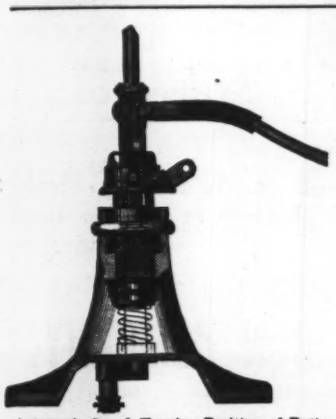

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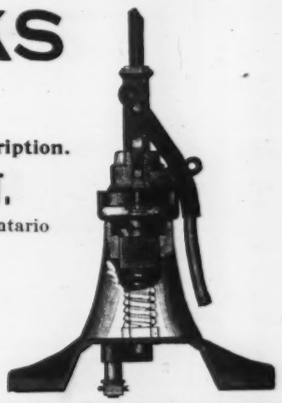

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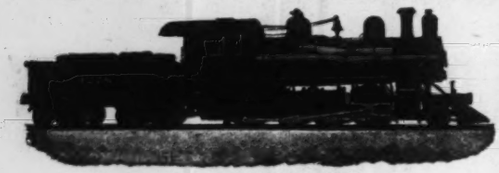

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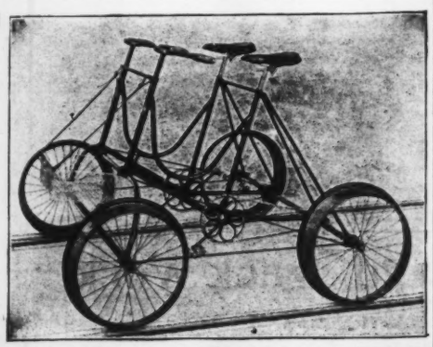

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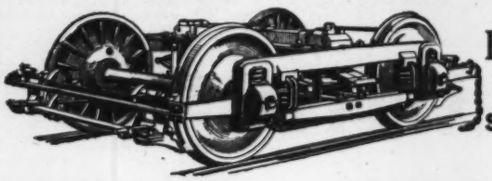

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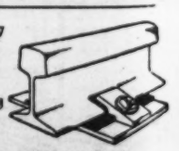

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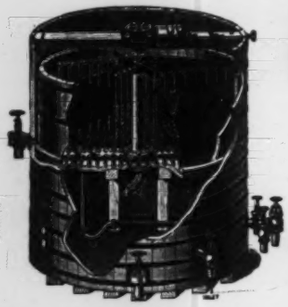

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